CHAPTER 6

STATE AGENCY FOR HIGHER EDUCATION GRANTEES: FEATURES AND MANAGEMENT OF EISENHOWER-ASSISTED ACTIVITIES IN INSTITUTIONS OF HIGHER EDUCATION AND NONPROFIT ORGANIZATIONS

The Eisenhower legislation includes a component of the program for professional development projects sponsored by state agencies for higher education (SAHEs). This component of the Eisenhower program operates separately from the component that supports district-sponsored activities. The legislation allocates 16 percent of Eisenhower funding for the SAHE component of the Eisenhower program. Unlike the remaining 84 percent of Eisenhower funding, which is distributed by a formula through State Educational Agencies (SEAs) to local educational agencies (LEAs), SAHEs sponsor competitions within their states and make awards to organizations that apply. Grants are awarded primarily to institutions of higher education (IHEs), such as colleges and research universities, and nonprofit organizations (NPOs), such as museums and libraries. In sponsoring these competitions, each SAHE develops priorities and establishes criteria for awarding the grants. The priorities, guidelines, and criteria are based to some extent on the state plan to improve teaching and learning, which the legislation requires the SEA to develop in conjunction with the SAHE, as part of the application process. In the plan, SEAs and SAHEs describe the process and results of their assessment of the needs of their teaching force, and how the activities that the state intends to provide will address teachers' needs, including recruitment, pre-service and induction and continuing through the provision of in-service activities, as well as how the professional development plan incorporates standards and indicators and provides for the needs of teachers of special populations of students.

The SAHE component of the Eisenhower program takes advantage of the prominent role of IHEs in preparing the nation's teachers. This component is designed to encourage IHEs and NPOs to provide high-quality in-service and pre-service professional development that is consistent with state standards and reforms, and to foster closer ties between higher education institutions and elementary and secondary education agencies.

SAHE-sponsored IHE/NPO Eisenhower projects (referred to as "SAHE grantees") are subject to the same stipulations regarding quality that apply to district activities—requirements for activities to be in core subject areas, mainly in mathematics and science, but also including other core academic subject areas, and to be sustained, intensive, and innovative. Specifically, the legislation says that the grants, contracts, and/or cooperative agreements established with the SAHE grantee shall be for

> Professional development activities in the core academic subjects that contribute to the State plan for professional development (Section 2211(a)(1)(A)); developing and providing assistance to local educational agencies, and the teachers and staff of each such agency, for sustained high-quality professional development activities (Section 2211(a)(1)(B)); and improving teacher education programs in order to promote further innovation in teacher

education programs within an institution of higher education and to better meet the needs of the local educational agencies for well-prepared teachers (Section 2211(a)(1)(C)).

The law also describes several types of activities that SAHE grantees are to provide, including

Sustained and intensive high-quality professional development for teams of teachers, or teachers, and, where appropriate, pupil services personnel and administrators from individual schools or school districts (Section 2211(b)(1)); other sustained and intensive professional development activities related to achievement of the State plan for professional development (Section 2211(b)(2)); and pre-service training activities (Section 2211(b)(3)).

The SAHE portion of the law also includes specific coordination requirements for grantees, namely, that they "work in conjunction with a local educational agency" (Section 2211)(a)(1)) by "entering into an agreement with an LEA to provide sustained, high-quality professional development" (Section 2211(3)).

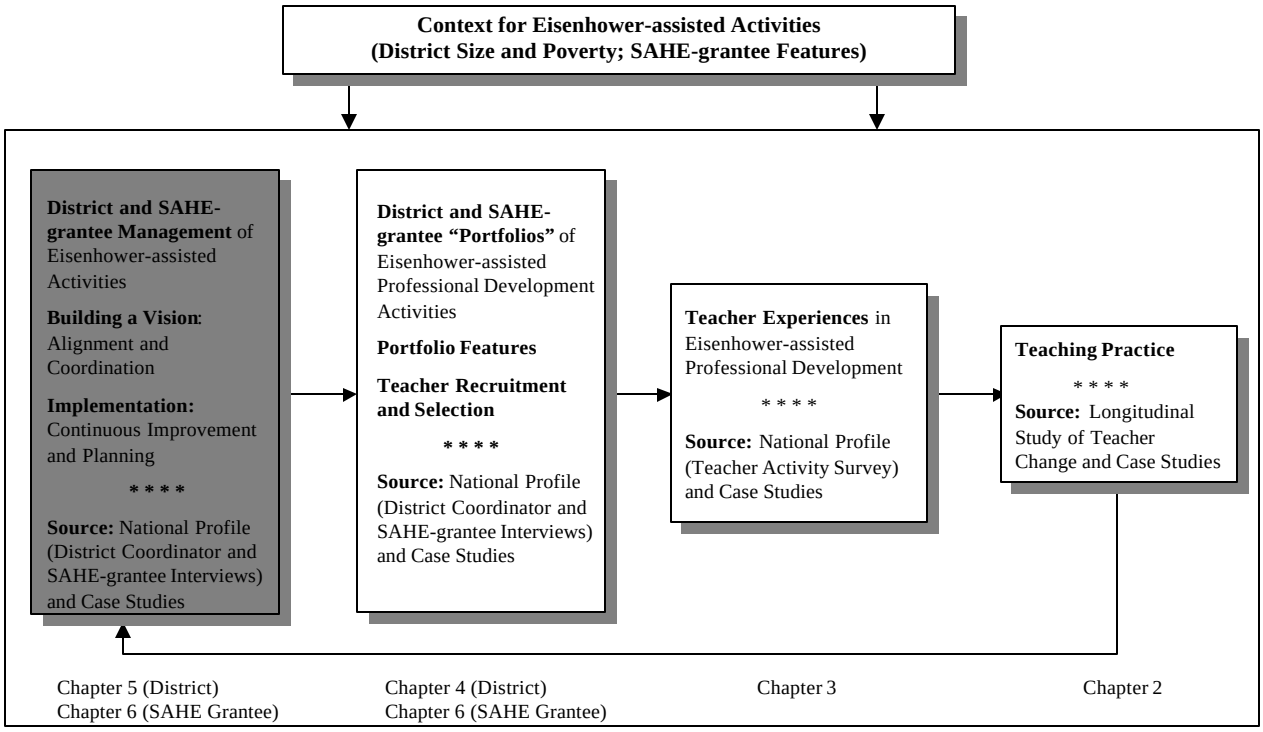
In addition to these specific requirements that define the quality of SAHE-sponsored professional development, SAHE grantees must be responsive to the general purposes of the Eisenhower Professional Development Program, as identified in the legislation. SAHE grantees should provide professional development that, for example, "includes strong academic content and pedagogical components" (Section 2002(2)(C)); "is of sufficient intensity and duration" (Section 2002(2)(E)); and "creates an orientation toward continuous improvement throughout the school" (Section 2002(2)(F)).

Similarly, the law's general goals for providing professional development to teachers of students of diverse needs apply to SAHE grantees. These provisions stipulate that professional development provided under the Eisenhower program should "incorporate effective strategies" to meet the needs of teachers of "diverse student populations" (Section 2002(2)(D)). SAHE grantees also are subject to the general provisions of the law that state that professional development offered under the Eisenhower program should be "tied to challenging State content standards and challenging State student performance standards" (Section 2002(2)(A)).

SAHEs are responsible for designing competitions and awarding grants to IHE/NPO professional development projects that meet the criteria outlined in the legislation. In this chapter, we describe the extent to which SAHE grantees meet the requirements of the legislation. We provide information about the SAHE-grantee characteristics and practices that shape their activities: the structural and core features of professional development activities; recruitment and targeting of teachers of special populations of students; alignment with state and district standards and assessments and coordination with districts; and the use of continuous improvement mechanisms, such as indicators, needs assessments, and evaluation. Exhibit 6.0 illustrates how this chapter fits into the conceptual framework of the entire study.

EXHIBIT 6.0

Conceptual Framework for This Evaluation



Data Sources

In this chapter, we use our survey data from SAHE-grantee project directors. During the spring of 1998, we conducted telephone interviews with a nationally representative sample of 92 SAHE grantee project directors. This represents a response rate of 87 percent. To develop the sampling frame, we contacted all 50 SAHE Eisenhower coordinators and obtained complete lists of projects supported during the 1997-98 school year. We sampled SAHE grantees in proportion to the size of their Eisenhower grant, based on the assumption that the number of teachers served was proportional to the size of the grant. After collecting information on the number of teachers who participated in SAHE-grantee activities, we weighted the data according to the number of teachers actually served by the SAHE grantees.[1] As a result, our data are representative of all teachers participating in SAHE-grantee projects.[2]

[1] The correlation between grant size and the number of teachers served is .6. All parameter estimates reported in the chapter are weighted. Reported p-values and the standard errors on which they are based, however, do not reflect the variance in weights across SAHE grantees. Analyses that take this element of the complex sample design into account have been carried out, and the results are nearly identical to those reported in the chapter.

[2] Throughout the chapter, we refer to the *percent of teachers in SAHE-grantee projects;* but our data actually represent the percent of teacher *participations* in SAHE-grantee projects. These two figures differ based on the extent to which the same teacher participated in more than one SAHE-grantee activity. For clarity of presentation, and because multiple participations in IHE/NPO activities are minimal, we present our findings in terms of *percent of teachers*.

We asked the project directors questions that referred to the time period from July 1 through December 31, 1997 (the same time period for which district coordinators answered questions, as reported in Chapters 4 and 5 of this report). All data presented in this chapter refer to that time period, unless otherwise noted. SAHE grantees can use Eisenhower funding to support one activity, or several activities. On our survey, a single activity is defined as an event with a common group of participants.[3] Some questions on the survey apply to all SAHE-grantee activities, and some questions apply only to the grantee's "primary" activity.[4] For questions that pertained to characteristics of activities, such as structural and core features, we asked SAHE-grantee project directors about the primary professional development activity that they support with Eisenhower funds. Questions that refer to general practices, such as targeting and coordination, apply to all of the grantee's Eisenhower-assisted activities. The exhibits in this chapter indicate when the data apply only to the IHE/NPO's primary activity; otherwise, the data report on general practices that apply to all of the SAHE grantee's Eisenhower-assisted activities.[5] While a SAHE can play a key role in shaping its grantees' projects through the guidelines and criteria it establishes for the grants competition, in this chapter we focus primarily on the quality and operation of the grantees' Eisenhower project.[6]

We use our case studies of SAHE grantees to explain and describe particular aspects of professional development structure, substance, and organization. In the spring and summer of 1998, we conducted open-ended telephone interviews with project directors at six IHEs that served teachers in our case-study districts. We conducted in-depth interviews with the directors, and collected their Eisenhower grant proposals, and descriptions of the Eisenhower activities that they provided.

The data reported in this chapter refer to Eisenhower-assisted *in-service* activities that are provided by SAHE grantees. Most SAHE grantees conduct pre-service as well as in-service professional development activities, and Eisenhower funds can be used for either purpose. We focus in this report on in-service activities, since nearly all of SAHE-grantees use Eisenhower funds for this purpose.[7] Also, while districts sometimes may use IHE/NPOs to supply Eisenhower-assisted professional development activities, this chapter describes only the IHE/NPO professional development activities that SAHEs administer through the Eisenhower Professional Development Program.

[3] For example, if four different groups of teachers attended the same workshop on four separate occasions, this would count as four activities. But if one group of teachers attended a workshop and a follow-up event, this would count as one activity.

[4] If SAHE-grantee project directors provided more than one Eisenhower-assisted activity, we asked them to identify one as their primary activity.

[5] Since our survey asked SAHE grantees to describe characteristics of their *primary* activity, and our district survey asked district coordinators to describe characteristics across *all* activities, comparisons of responses to these questions are inappropriate. However, questions about targeting, alignment, coordination, and continuous improvement efforts refer to the activities of both SAHE grantees and districts overall; therefore, we are able to compare these responses, and, where such comparisons seem instructive, we do so.

[6] Due to the small number of grantees, SAHEs may be able to monitor their grantees' projects to help ensure faithful implementation; but we did not examine the SAHE's monitoring role.

[7] In 1992-1993, 1993-1994, and 1994-1995, the average percent of Eisenhower funds that State Agencies of Higher Education (SAHEs) used for pre-service activities was 3 percent in each year (Donly & Gutman, 1997); for 1996-1997, SAHEs reported that 14 percent of Eisenhower funds were used to support pre-service professional development (Celebuski et al., 1998).

Organization of Chapter

We begin the chapter by describing the characteristics of the SAHE grantees in our national sample. We then provide data about the subject-area and structural features of the primary professional development activities provided by our sample of SAHE grantees. The structural features are type of activity (traditional vs. reform); duration, including both contact hours and span across days, weeks, months, or years; and collective participation (i.e., the extent to which activities are designed for groups of teachers or whole schools).

The next section reports findings on core features of activities, specifically the strength of the content focus of the activity and the number of active learning opportunities provided in the activity. Next, we focus on the targeting and recruitment of teachers of special populations of students. Here we examine how frequently SAHE grantees target teachers of special populations of students, how teachers come to participate in SAHE-grantee projects, and strategies that SAHE grantees use to increase teacher participation.

After the targeting section, we analyze the extent to which SAHE grantees' projects are aligned with state and district standards and assessments and coordinated with districts. We then report on the continuous improvement efforts of SAHE grantees—whether they use state and district indicators in designing professional development, and whether and how they conduct needs assessments and evaluate their projects.

The continuous improvement section is followed by a summary and analysis of findings concerning significant differences on key variables according to type of institution and departmental affiliation. Throughout the chapter, we report findings according to the type of institution in which the Eisenhower project director works, and the department with which the project director is affiliated because these factors may shape the structure and substance of professional development activities in systematic ways. We distinguish two types of institutions—research universities and universities that grant doctorates; and all other types of colleges and universities (e.g., two-year colleges, private liberal arts colleges, and institutions that grant only bachelor's or master's degrees). We distinguish three departmental affiliations—mathematics or science departments; education departments; and "other" departments (e.g., administrative, media, or broadcasting). NPOs are excluded from comparisons of institution type and departmental affiliation, since these characteristics do not apply to them. Otherwise, all analyses combine data from SAHE-supported IHEs and NPOs.

The potential significance of these departmental affiliation distinctions is highlighted in the legislation, which defines another joint effort that is required of IHEs—between the IHE's school of education and the discipline in which the professional development is being provided. The law states that

> Each activity assisted under this section, where applicable, shall involve the joint effort of the institution of higher education's school or department of education, if any, and the schools or departments in the specific disciplines in which such professional development will be provided (Section 2211(A)(4)).

The variation in project directors' educational training and pedagogical practices across disciplines and in different types of IHEs may play a role in shaping the professional development activities that the project director develops and provides. To examine whether or not the structural and core features and implementation of professional development differs according to the type of

IHE or the departmental affiliation of the project director, we include both of these factors when we analyze the main variables in our study (i.e., participations in traditional vs. reform activities, duration, span, collective participation, active learning opportunities, content focus, targeting, alignment, coordination, and continuous improvement). Although a project that is housed in a particular department may be administered collaboratively by the school of education and the college or school in which the mathematics/science department resides, our study focuses on the departmental affiliation of the project director. Both factors are included in all analyses we present; therefore institution type effects are independent of affiliation effects, and affiliation effects are independent of the effects of institution type. Further, whenever we test for significant differences according to institution type and departmental affiliation, we test for interaction effects, and report where these are significant.

After the summary analysis of results by institution type and departmental affiliation, we discuss a path model that shows the relationships among many of the variables in the chapter, and we suggest how they may work together to foster high-quality professional development. The last section of the chapter highlights the major findings and suggests implications for both the legislation and practice.

CHARACTERISTICS OF IHE/NPO RECIPIENTS OF EISENHOWER GRANTS

Section Findings

- *A little less than half of the teachers participating in SAHE-grantee projects are in projects in research or doctoral-granting universities. A little more than half are in projects in other types of institutions ¾ those that grant bachelor's and master's degrees only, private liberal arts institutions, and public two-year colleges.*

- *Nearly half of the participating teachers are in IHEs whose Eisenhower projects are affiliated with mathematics or science departments, but almost as many are in IHEs whose Eisenhower projects are affiliated with education departments. The majority of participating teachers are in projects whose Eisenhower projects are headed by tenured professors, and almost two-thirds are in projects that have received Eisenhower support for four years or more.*

- *Approximately one-third of the participating teachers are in projects that provide one or two activities, one-third are in projects that provide three to ten activities, and one-third are in projects that provide more than 10 activities. A little less than half of the participating teachers are in projects that provide only one or two* types *of activities.*

Eighty-six of our total sample of project directors are from IHEs; six are from NPOs. To develop a detailed view of the characteristics of SAHE grants in IHEs, we asked a series of questions of each project director about the type of college or university the director works in, and the department, school, or center with which the director is affiliated. We also asked each director to describe his or her position (e.g., tenured professor, adjunct professor).

As Exhibit 6.1 shows, results from our survey of SAHE-sponsored IHE Eisenhower project directors indicate that about a third (34 percent) of teachers participating in IHE Eisenhower-assisted activities are in IHEs that offer only bachelor's or master's degrees, about two-fifths (44 percent) of participating teachers are in IHEs at either research or doctoral-granting universities, and less than a quarter (22 percent) are in private liberal arts and public two-year universities.[8]

EXHIBIT 6.1

Characteristics of SAHE Grantees

	IHEs (percent of teachers participating in SAHE-sponsored IHE projects, by IHE characteristics) (n=86)	NPOs (number) (n=6)
IHE Institution Type		
Research	16	
Doctoral	28	
Bachelor's/Master's–Granting	34	
Private Liberal Arts	10	
Public Two Year	12	
NPO Institution Type		
Professional Association		1
Media Organization		2
Consortium of City School Divisions		1
Environmental Organization		1
Educational Institutions		1
Number of Years Receiving Eisenhower Support		
Less than 1 year	1	1
1 year	8	0
Between 1–3 years	29	3
Between 4–5 years	10	2
More than 5 years	48	0
Departmental Affiliation of Principal Investigator		
Mathematics	23	
Science	24	
Education	39	
Other	13	
Position of Principal Investigator		
Tenured Professor	56	
Adjunct Professor	1	
Dean or Department Head	17	
Research Center Staff	7	
Other	20	

[8] As a result of rounding, percents may not sum to 100 percent.

Each IHE project director also reported the department, school, or center with which he or she is affiliated. As Exhibit 6.1 shows, more than a third (39 percent) of teachers participating in SAHE-sponsored IHE projects are in projects affiliated with the education school or department; 24 and 23 percent are in projects affiliated with the science and mathematics department, respectively; and 13 percent are in projects affiliated with other departments or schools. Examples of other departments or schools that project directors are affiliated with are departments of broadcasting services, general studies, language and literature, and parallel studies; a college of business; a group of academic administrators; and a university outreach organization.

Each project director also indicated which position he or she held. Exhibit 6.1 shows that the majority of participating teachers (56 percent) are in projects whose directors report being tenured professors; 17 percent are in projects whose directors are deans or department heads (who, in most cases, also is a tenured professor); seven percent are in projects whose directors are part of the staff of a research center; and only one percent are in projects whose directors report being adjunct professors. The remaining 20 percent of participating teachers are in projects whose directors report holding positions other than one of these four, but do not describe the position.

We also asked IHE project directors how long they have been receiving Eisenhower funds, not limited to the project we asked them about on the survey. As Exhibit 6.1 shows, nearly half (48 percent) of the participating teachers are in projects that have received Eisenhower support for more than five years; ten percent are in projects that have received support from the Eisenhower program for between four and five years; and 29 percent are in projects that have received Eisenhower grants for between one and three years. Eight percent of participating teachers are in projects that have received Eisenhower funds for less than one year, and only one percent are in projects that have received Eisenhower support for less than a year.

The NPOs in our sample represent several different types of organizations. As indicated in Exhibit 6.1, one NPO is a professional association, two are media organizations, one is a consortium of several city school divisions, one is a private nonprofit environmental organization, and one is a regional nonprofit educational institution. Three of the NPOs have received money from the Eisenhower program for between one and three years, two have received Eisenhower funds for between four and five years, and one of the NPOs in our study has received Eisenhower funds for less than one year.

To get a sense of the types and scope of activities that SAHE grantees provide, we asked project directors to describe the types of activities that they provide (e.g., workshops, conferences, courses, networks, and internships), the number of activities that they provide each year, and how many teachers are served by each activity (data not shown). Their responses indicate that SAHE-grantees vary in the number of activities that they provide. Almost a third of participating teachers are in SAHE-grantee projects that provide only one or two activities per year: specifically, 21 percent of participating teachers are in projects that provide only one activity, and 10 percent are in projects that provide two activities. Seventeen percent of participating teachers are in projects that provide three to five activities, 16 percent are in projects that provide six to ten activities, 16 percent are in projects that provide 11 to 15 activities, and 21 percent are in projects that provide 16 or more activities. Similarly, some SAHE grantees support only a few types of activities while others support several types. Thirty-nine percent of participating teachers are in projects that support only one type of activity, eight percent are in projects that support two types, four percent are in projects that support three types, 21 percent are in projects that support four types, and 29 percent are in projects that support five or more types of activities.

The median number of teachers that SAHE grantees serve is 33 teachers (data not shown).[9] More specifically, 31 percent of participating teachers are in SAHE-grantee projects that serve 25 teachers or fewer, 29 percent are in projects that serve 26 to 50 teachers, 13 percent are in projects that serve 51 to 100 teachers, 10 percent are in projects that serve 101 to 200 teachers, nine percent are in projects that serve 200 to 500 teachers, and three percent are in projects that serve more than 500 teachers.

These results indicate that, on average, professional development sponsored by SAHEs are projects in IHEs; are housed in education, mathematics, or science departments; are in institutions most likely to grant teaching degrees; directed by tenured professors who themselves or whose institutions have a history of several years of working with the Eisenhower program; and are focused on a few types of activities for a small number of teachers. This contrasts with the professional development provided by districts, as reported in Chapters 4 and 5; districts tend to provide portfolios of a diverse set of activities, while SAHE grantees typically support one focused, small-scale project. We now move on to discuss the structural characteristics of the professional development activities that SAHE grantees provide.

STRUCTURAL FEATURES OF SAHE-GRANTEE-PROVIDED PROFESSIONAL DEVELOPMENT

Section Findings

- *SAHE grantees use Eisenhower funds to support activities mainly in mathematics and science, but more than a third of teachers who participate in SAHE-sponsored projects are in projects that also use Eisenhower money to support activities in other subject areas.*

- *Over 80 percent of participating teachers are in SAHE-sponsored projects where the primary Eisenhower-assisted activity is a traditional type (e.g., workshops and courses); only 15 percent of participating teachers are in projects where the primary activity is of a reform type (e.g., study groups, teacher networking and mentoring).*

- *Most SAHE grantees' primary activities are of long duration—they last more than 40 hours and span from one month to a year; however, a small portion last less than nine hours and span less than one month.*

- *Most SAHE grantees' primary activities projects do not serve all teachers in a grade, department, or a whole school (i.e., collective participation).*

[9] Information about the number of teachers served by the SAHE grantees is an approximation. We had two sources of information about the number of teachers served — data from professional development activity lists that we collected from SAHE-grantee project directors and data from our telephone surveys with SAHE-grantee project directors. In many cases, these data did not match exactly. We averaged the two sources of data together and used this number as our estimate of the number of teachers served by each SAHE-sponsored IHE or NPO project.

- *IHE projects housed in education departments, compared to mathematics/science departments, have significantly more reform types of activities, and have activities of significantly longer duration, both in number of contact hours and span of time. Research/doctoral universities sponsor Eisenhower professional development activities with significantly more collective participation than other types of colleges and universities.*

The substance of activities depend to a large extent on the structure of the activity—specifically, the type of activity, its duration, and the groups of teachers who participate. The legislation recognizes the importance of these features of professional development. Although the legislation does not specify the particular type of professional development that SAHE grantees should provide, the law draws on research that says that "new and innovative strategies for teaching to high standards will require time for teachers, outside of the time spent teaching, for instruction, practice, and collegial collaboration" (Section 2001(4)(D)). There are specific requirements in the law that SAHE-sponsored IHE/NPOs provide professional development that is "sustained and intensive" (Section 2211(b)(1) and (2)). In addition, SAHE grantees are expected to fulfill the more general purposes of the law, which call for professional development that "is of sufficient intensity and duration to have a positive and lasting impact on the teacher's performance in the classroom" (Section 2002(2)(E)). Also, the SAHE portion of the law says that professional development may be designed for "teams of teachers" (Section 2211(b)(1)), among other groups. This is consistent with the part of the law focused on districts, which emphasizes the importance of school-level participation, and encourages that the professional development "take[s] place at the individual school site" (Section 2210(a)(1)(B)).

Although there is limited research on the relationship between features of professional development and teacher or student outcomes, the evidence that is available supports the law's emphasis on type, duration, and collective participation. The literature suggests that traditional methods of professional development, such as workshops, are not likely to extend over long periods of time and offer teachers opportunities for in-depth study to practice what they have learned, and to collaborate and provide feedback to each other (Little, 1993). Also, since these traditional approaches are less likely to afford teachers the opportunity for reflection on what they have learned and for in-depth engagement, these types of activities are thought to be not as likely to elicit the desired changes in knowledge, skills, and teaching practice (Darling-Hammond, 1997a; Sparks & Loucks-Horsley, 1989).

Further, proponents of systemic reform maintain that teachers who teach the same grade or subject area should be operating from the same subject base, and from similar approaches to teaching and learning. Researchers suggest that professional development that is designed for whole schools or groups of teachers from schools (defined as "collective participation" in this report) provide teachers with a community of learners, as well as the capacity to share knowledge and to learn from each other, and to develop and implement strategies to serve the specific needs of their students (Ball, 1996; Little, 1993; Newmann et al., 1996).

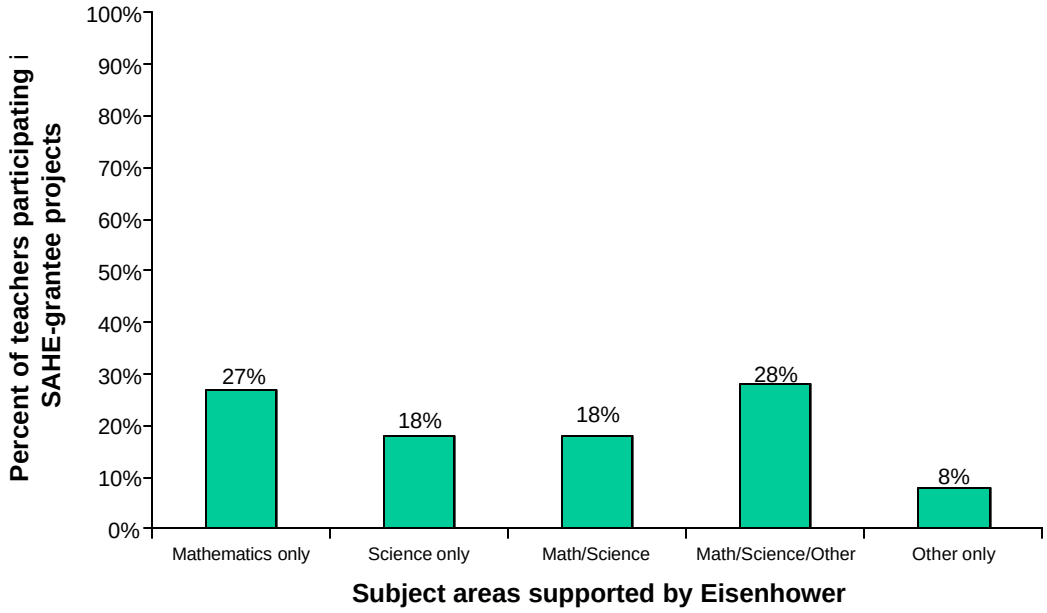
In this section, we report the findings from our SAHE-grantee survey that describe the three structural features—type, duration, and collective participation—which are emphasized in both the Eisenhower legislation and the professional development literature.

Subject Areas of Primary Activity

We asked each SAHE-grantee project director to list the subject areas covered in the project's primary activity, including mathematics, science and other subject areas.[10] As Exhibit 6.2 shows, the majority of teachers participating in SAHE-grantee projects are in projects whose primary Eisenhower-assisted activity includes mathematics only (27 percent), science only (18 percent), or a combination of mathematics and science (18 percent). Twenty-eight percent of participating teachers are in projects whose primary activity includes a combination of mathematics, science and other subject areas, and eight percent of teachers are in projects whose primary activity does not include mathematics and science.

EXHIBIT 6.2

Percent of Teachers Participating in SAHE-grantee Projects with Primary Activities That Cover Mathematics, Science, and Other Subject Areas (n=92)



Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit: The first bar shows that 27 percent of teachers participating in SAHE-grantee projects are in projects whose primary Eisenhower-assisted activity is in mathematics only. Each bar and the number on top of it represent the percent of participating teachers for each category.

Type of Activity

To examine the extent to which SAHE grantees provide traditional vs. reform activities, we asked SAHE-grantee project directors to classify their primary activity using our list of traditional and reform types of professional development. All types of workshops and courses are categorized as

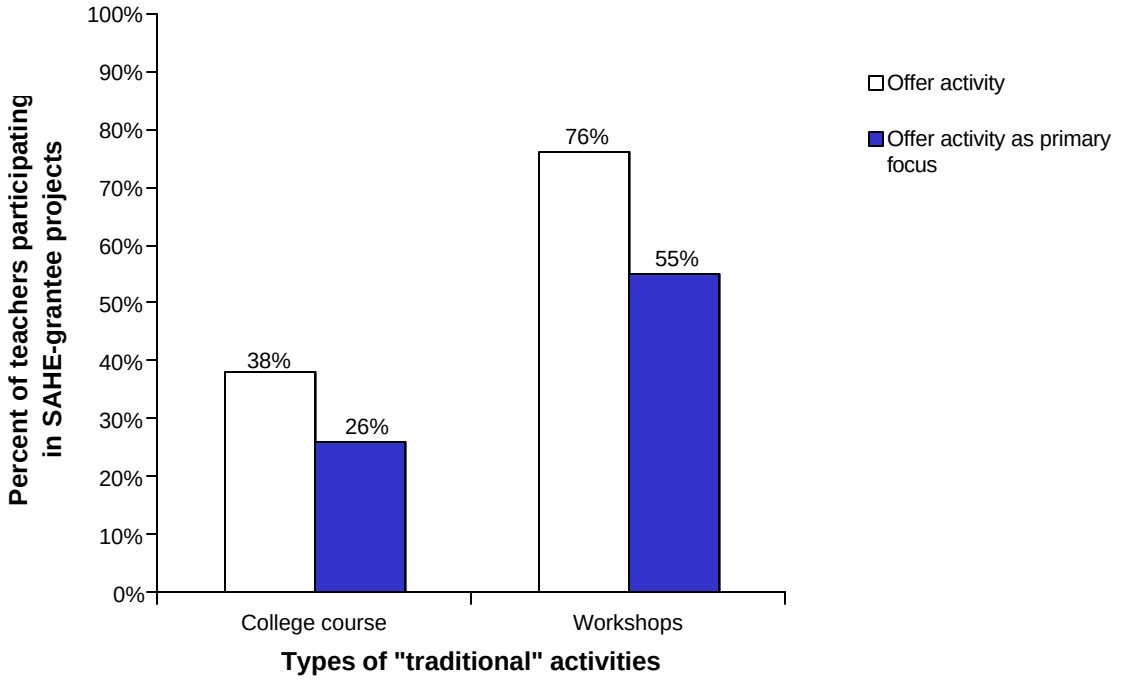
[10] Our sampling plan required that selected SAHE-grantee projects offer activities in mathematics and/or science.

traditional, and the seven other types of activities are categorized as reform: study groups, teacher networking, mentoring, committees or task forces, internships, individual research project, and teacher resource centers.

Results, shown in Exhibit 6.3, indicate that about three-quarters (76 percent) of participating teachers are in projects that support workshops, and 55 percent are in projects that support workshops as their primary activity. Similarly, 38 percent are in projects that offer college courses, and 26 percent are in projects that offer college courses as their primary activity.

EXHIBIT 6.3

Percent of Teachers Participating in SAHE-grantee Projects That Offer "Traditional" Activities (n=92)



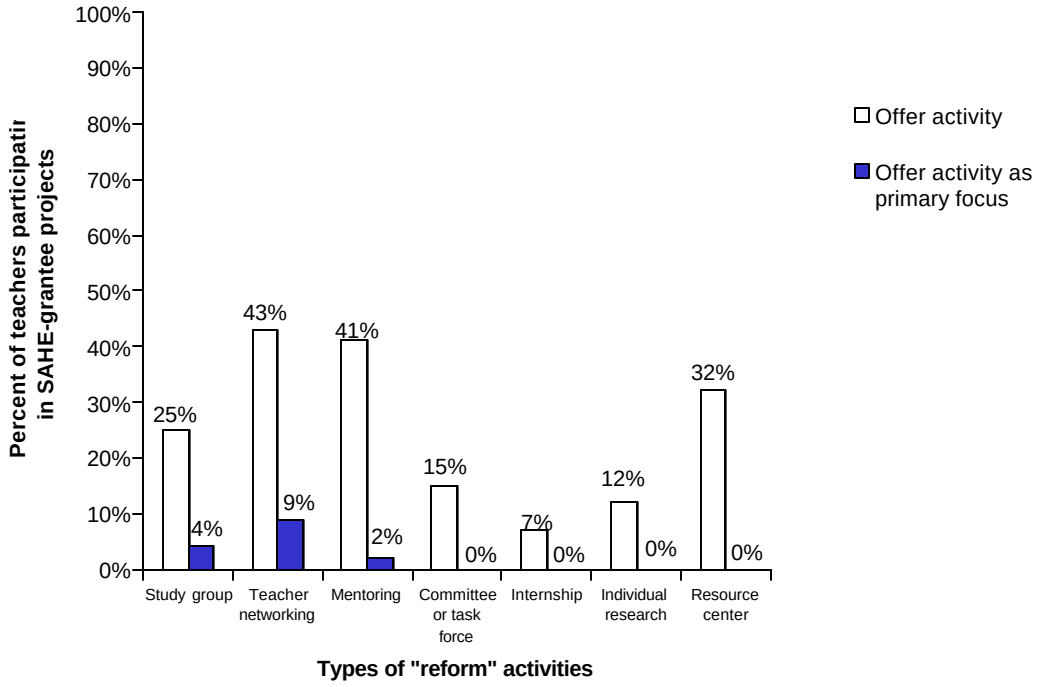
Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit: The first bar shows that 38 percent of teachers participating in SAHE-grantee projects are in projects that use Eisenhower funds to offer college courses. The second bar shows that 26 percent of participating teachers are in projects whose primary Eisenhower-assisted activity is a college course. Each bar and the number on top of it represent the percent of participating teachers for each category.

Exhibit 6.4 shows the percent of participating teachers in projects that support each of the seven reform types of professional development. Between a third and a half of participating teachers are in projects that use Eisenhower funds to support teacher networks (43 percent), mentoring (41 percent), and resource centers (32 percent). Twenty-five percent are in projects that use Eisenhower funds for study groups, and 15 percent are in projects that use Eisenhower funds for committees or task forces. Less than 20 percent are in projects that use money from the Eisenhower program to fund either internships or individual research projects.

These reform activities are rarely a SAHE grantee's primary activity. Only nine percent of participating teachers are in projects that support teaching networks as their primary activity, four percent are in projects that support study groups as their primary activity, and two percent are in projects that support mentoring as their primary activity. No SAHE grantees use Eisenhower to support committees or task forces, internships, individual research projects, or teacher resource centers as their primary activity.

EXHIBIT 6.4

Percent of Teachers Participating in SAHE-grantee Projects That Offer "Reform" Activities (n=92)



Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit: The first bar shows that 25 percent of teachers participating in SAHE-grantee projects are in projects that use the Eisenhower program to fund study groups. The second bar shows that 4 percent of participating teachers are in projects whose primary activity is a study group. Each bar and the number on top of it represent the percent of participating teachers for each category.

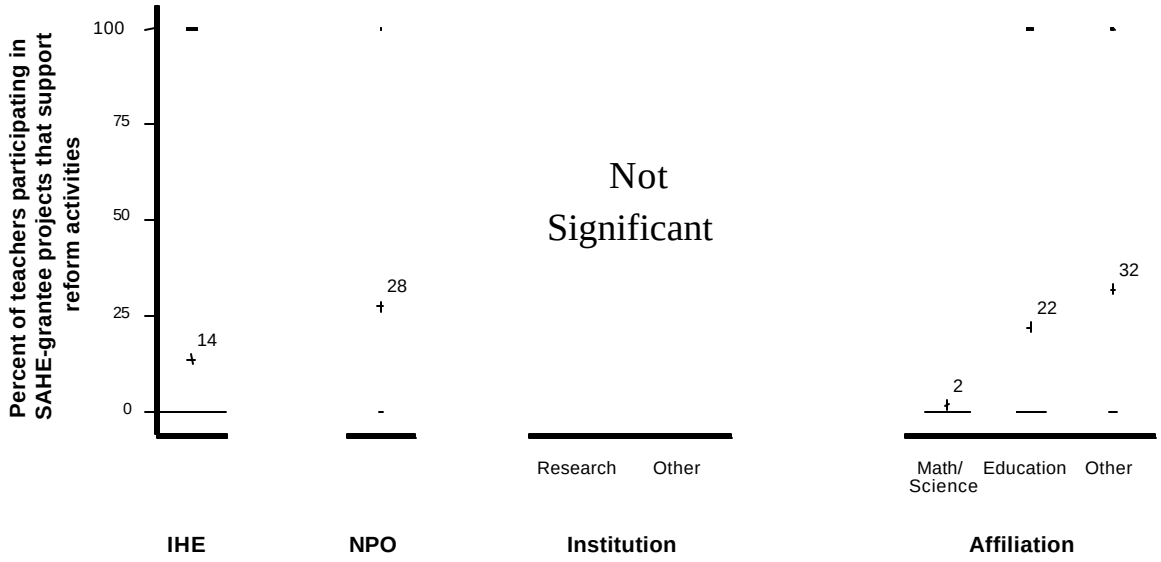
Among SAHE grantees that are IHEs, we examined whether the choice of supporting a reform versus traditional activity as the primary activity differs by type of institution or departmental affiliation.[11] Exhibit 6.5 shows that there are no significant differences by institution type, but education departments and "other" departments are significantly more likely than mathematics/science departments to have a reform activity as their primary activity. The difference may be due to the fact that professors in education and "other" departments are more likely to be social scientists, or curriculum and instruction specialists than are mathematics or science professors.

[11] The distribution and mean for IHEs and NPOs are presented separately in these analyses, but we did not test for significant differences between IHEs and NPOs because of the small number of NPOs in our sample.

As a result, professors in education or "other" departments may be more knowledgeable about alternative formats for structuring activities, other than traditional courses or workshops.

EXHIBIT 6.5

SAHE-grantees' Support for "Reform" Types of Activities, Overall and by Institution Type and Departmental Affiliation (n=92)



	Significant Pairwise Contrasts
Departmental Affiliation	Mathematics/Science vs. Education; Mathematics/Science vs. Other

Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
***How to Read*:** The first distribution shows that on average, 14 percent of teachers participating in SAHE-grantee projects are in projects whose primary Eisenhower-assisted activity is a reform activity. Support for reform activities differs significantly by departmental affiliation, but not by institution type. Each dot represents one IHE/NPO project. As the number of IHE/NPO projects at one data point (or value) increases, the dots form a horizontal line that increases in length. Each distribution represents the distribution for that particular category. The number to the right of the distribution is the mean.

Duration

In addition to subject-area focus and type of activity, the duration of the activity is another important structural feature. Duration includes both contact hours and span across time in days, months, and years. To measure the duration of SAHE-grantee activities, we asked each project director across what period of time the project's primary activity extended and the total number of hours that it lasted.

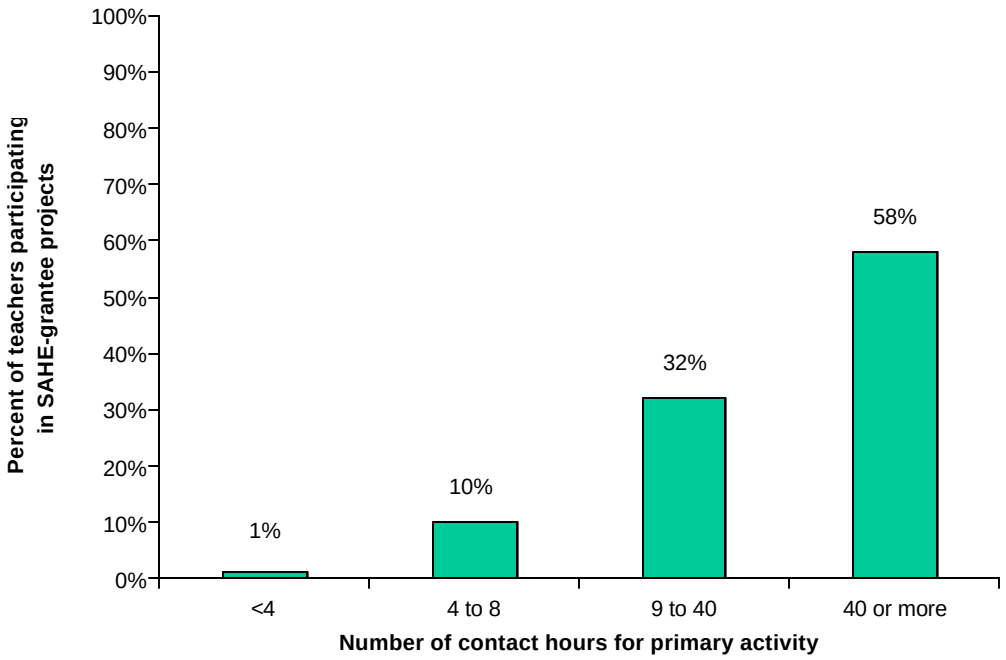
Contact Hours

Each SAHE-grantee project director reported the number of contact hours the typical participant engaged in the grantees' primary activity. Responses, shown in Exhibit 6.6a, indicate that the majority of participating teachers (58 percent) are in projects that sponsor activities that last more than 40 hours. Thirty-two percent of teachers are in projects whose primary activity lasts

between nine and 40 hours, 10 percent are in projects whose primary activity lasts between four and eight hours, and only one percent are in projects whose primary activity lasts less than four hours.

EXHIBIT 6.6a

Percent of Teachers Participating in SAHE-grantee Projects, by Contact Hours of Primary Activity (n=92)

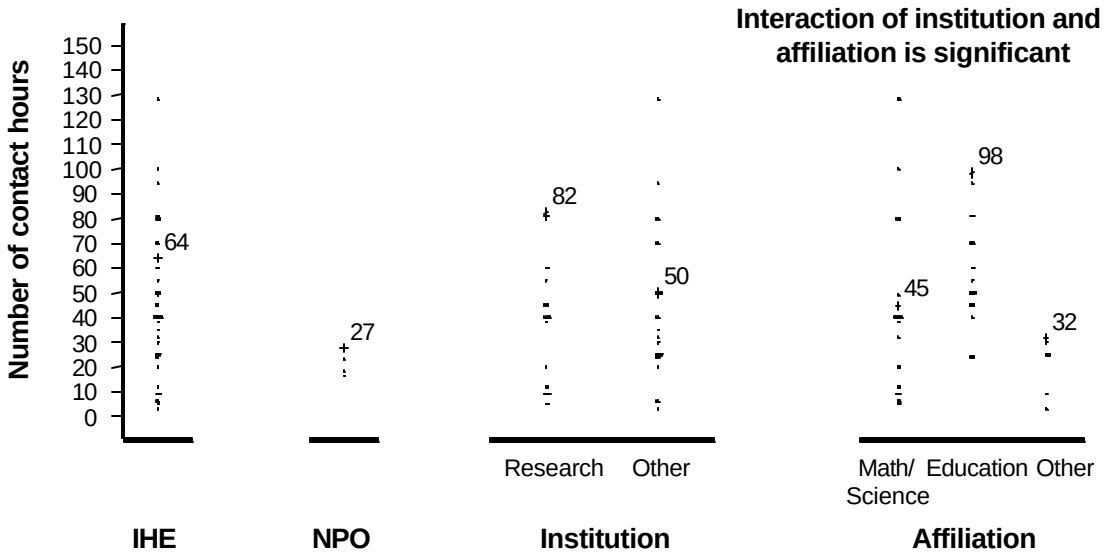


Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit: The first bar shows that one percent of teachers participating in SAHE-grantee projects are in projects whose primary Eisenhower-assisted professional development activity lasts less than four hours. Each bar and the number on top of it represent the percent of participating teachers for each category.

We now examine whether the number of contact hours of activities differs significantly by institution type or departmental affiliation. Exhibit 6.6b shows that SAHE-sponsored IHE projects range in contact hours from one to about 130 hours, with an average of 64 contact hours. Exhibit 6.6b also indicates that there are significant interactions between institution type and departmental affiliation. The pattern of interactions, shown in Exhibit 6.6c, indicates that SAHE-grantee projects housed in education departments in research/doctoral-granting universities have more than twice as many contact hours as other projects.

EXHIBIT 6.6b

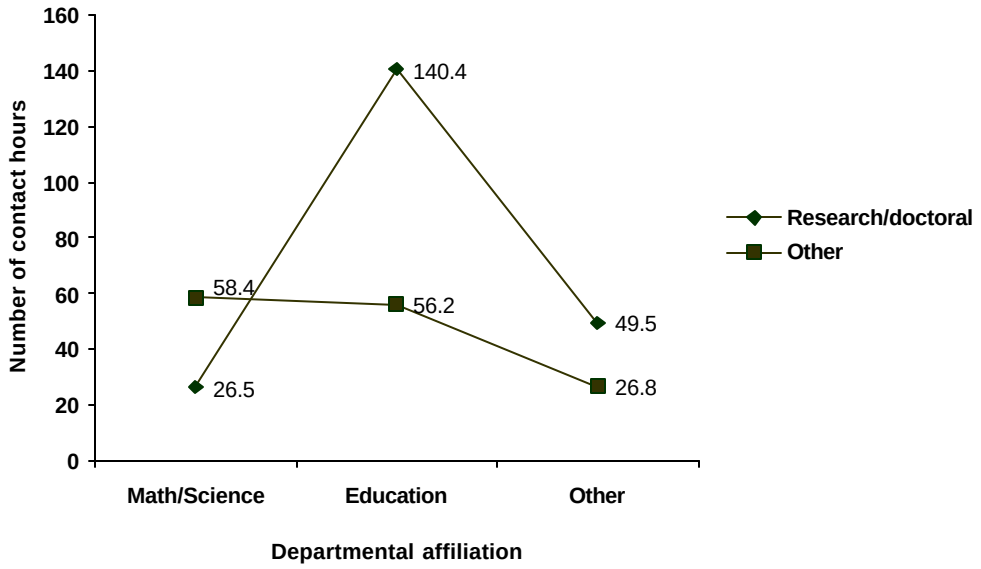
Contact Hours of SAHE-grantees' Primary Activity, Overall and by Institution Type and Departmental Affiliation (n=92)



Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit: The first distribution shows that on average, teachers in SAHE-grantee activities are in projects whose primary activity averages 64 hours. The amount of time of a project's primary Eisenhower-assisted professional development activity differs significantly by departmental affiliation but not by institution type. Each dot represents one IHE/NPO project. As the number of IHE/NPO projects at one data point (or value) increases, the dots form a horizontal line that increases in length. Each distribution represents the distribution for that particular category. The number to the right of the distribution is the mean.
Note: Values were truncated at 150 hours, so values above 150 do not appear on the distribution.

EXHIBIT 6.6c

Contact Hours of SAHE-grantees' Primary Activity, Interaction of Institution Type and Departmental Affiliation (n=86)



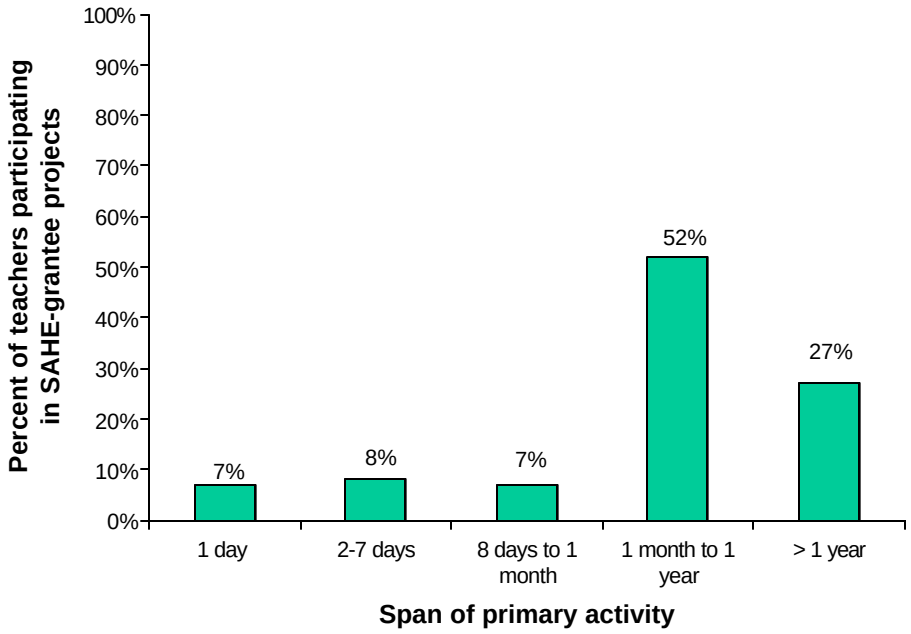
Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit: The data point designated by the first square indicates that in mathematics/science departments in nonresearch/doctoral-granting universities, the average number of contact hours in the primary Eisenhower-assisted project is 58.4. The line with data points designated by squares indicates the number of contact hours in projects of nonresearch/doctoral-granting institutions, in each of the three types of departments. The line with the data points designated by diamonds indicates the number of contact hours in projects at research/doctoral-granting institutions in each of the three types of departments.

Span

To measure the span of SAHE-grantee activities, we asked each project director to describe the time period over which the primary activity was spread, including the main activity and any formal preliminary or follow-up sessions. We asked for this information only for primary activities; thus the information is not available for internships, teacher resource centers, teacher committees/task forces, or individual research projects, which no IHE or NPO provided as a primary activity. Exhibit 6.7a shows that a little more than a quarter (27 percent) of participating teachers are in projects whose primary activity extends over more than one year, but the most common span of activities is between one month and one year; fifty-two percent of participating teachers are in projects whose primary activity spans this period of time. A substantial portion of participating teachers (22 percent) are in projects that sponsor primary activities that span less than one month.

EXHIBIT 6.7a

Percent of Teachers Participating in SAHE-grantee Projects, by Time Span of Primary Activity (n=92)

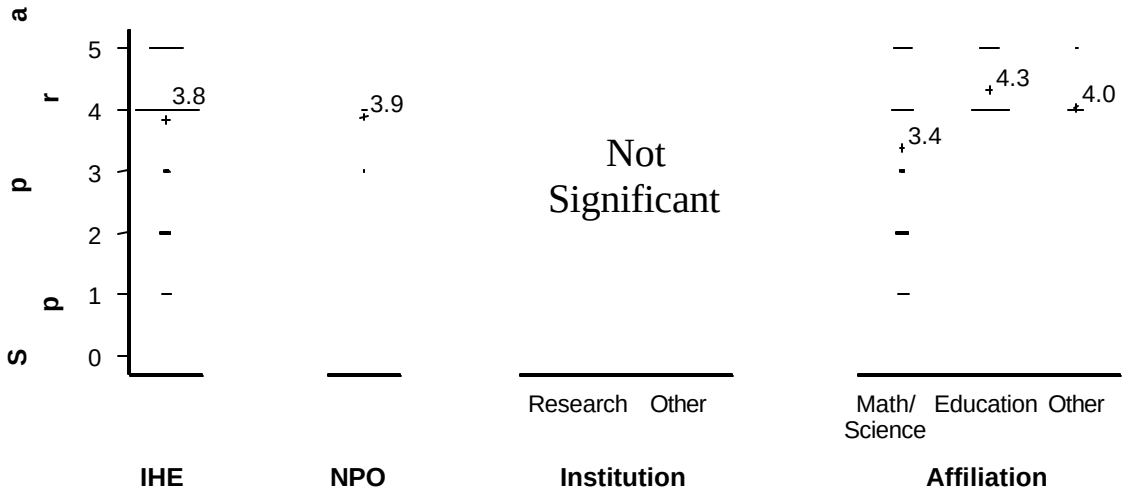


Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit. The first bar shows that seven percent of teachers participating in SAHE-grantee projects are in projects whose primary Eisenhower-assisted professional development activity spans one day. Each bar and the number on top of it represent the percent of participating teachers for each category.

Next we examine whether span differs for SAHE-supported IHE projects by institution type or departmental affiliation. The scale represented in Exhibit 6.7b has a range of one to five, where one equals one day and five equals greater than one year. Results in Exhibit 6.7b show that projects housed in mathematics/science departments range in span from one day to one year, and that no projects in education or "other" departments have a span of less than one month. The only significant differences are that IHE projects in education departments sponsor activities that are significantly longer in span (an average of about one month to one year) than IHE projects in mathematics or science departments (an average of three days to one month).

EXHIBIT 6.7b

Span of SAHE-grantees' Primary Activity, Overall and by Institution Type and Departmental Affiliation (n=92)



	Significant Pairwise Contrasts
Departmental Affiliation	Mathematics/Science vs. Education

***Source*:** Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
***How to read this exhibit*:** The first distribution shows that on average, teachers in SAHE-grantee projects are in projects in which the span of the primary activity is 3.8 (where one=one day, two=two to seven days, three=eight days to one month, four=one month to one year, and five=greater than one year). The time span of the project's primary Eisenhower-assisted activity differs significantly by departmental affiliation but not by institution type. Each dot represents one IHE/NPO project. As the number of IHE/NPO projects at one data point (or value) increases, the dots form a horizontal line that increases in length. Each distribution represents the distribution for that particular category. The number to the right of the distribution is the mean.

In summary, our data indicate that SAHE-grantee activities generally are of long duration: 58 percent of participating teachers are in projects whose primary activity has 40 or more contact hours, and 79 percent are in projects whose primary activity spans more than one month (see Exhibits 6.6a and 6.7a, respectively). Part of the reason IHE/NPO activities have long durations is that many of them are college courses (26 percent of participating teachers are in projects whose primary activity is a college course), which, by design, meet several hours per week and are spread over several months. However, as we showed in Chapter 3, even workshops and reform activities tend to have long durations when provided by IHE/NPOs. This might be because IHEs adopt the paradigm of courses for many of the other types of activities that they provide. Also, the proposal guidelines that SAHEs establish might require activities of long duration. Another possible explanation is that IHEs are knowledgeable about and apply principles of adult education, which suggest that sustained activities are the most useful and effective. This explanation is supported by the fact that IHE projects in education departments have activities of longer duration than projects in mathematics or science departments. We would expect that project directors affiliated with education departments would be more familiar than project directors affiliated with mathematics/science departments with how to optimally design professional development opportunities for teachers; professors in education departments at research universities are the source of most of the current research and theoretical literature on effective professional development.

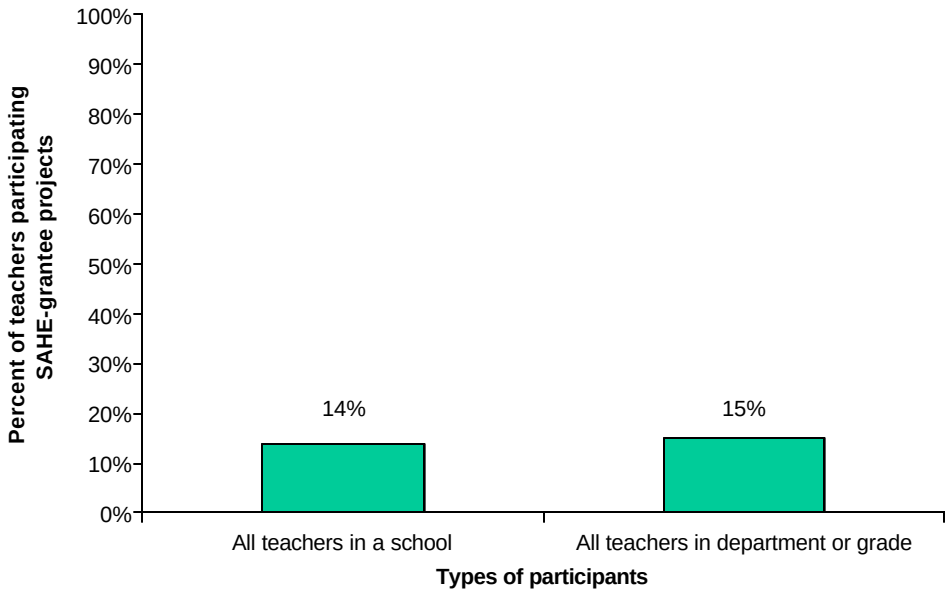
Collective Participation

The final structural feature of professional development that we discuss is collective participation, or the extent to which activities are geared toward the needs of groups of teachers or whole schools, rather than individual teachers. To measure collective participation in SAHE-grantee professional development activities, we asked each project director which of the following groups participated in the project's primary activity: 1) all teachers in department or grade-level groupings, and/or 2) all teachers in a school or set of schools (as opposed to teachers as individuals or teachers as representatives of their department, grade level, or school).

Exhibit 6.8a shows that 15 percent of participating teachers are in projects in which all teachers in a department or grade participate in the primary Eisenhower-assisted activity, and 14 percent are in projects in which that participation in the primary activity includes participation from all teachers in a school. These low rates of collective participation may be explained in part by the fact that IHEs commonly provide college courses, and teachers usually enroll in courses individually. In addition, teachers often compete to enroll in IHE activities. Participation by groups of teachers or whole schools in the same activity would be more likely to occur with a noncompetitive application process or a competition focused on whole schools, departments, or grades, rather than pre-designed workshops focused on individuals or courses for which the IHE/NPO seeks applicants.

EXHIBIT 6.8a

Percent of Teachers Participating in SAHE-grantee Projects Whose Primary Activity Involves Collective Participation (n=92)

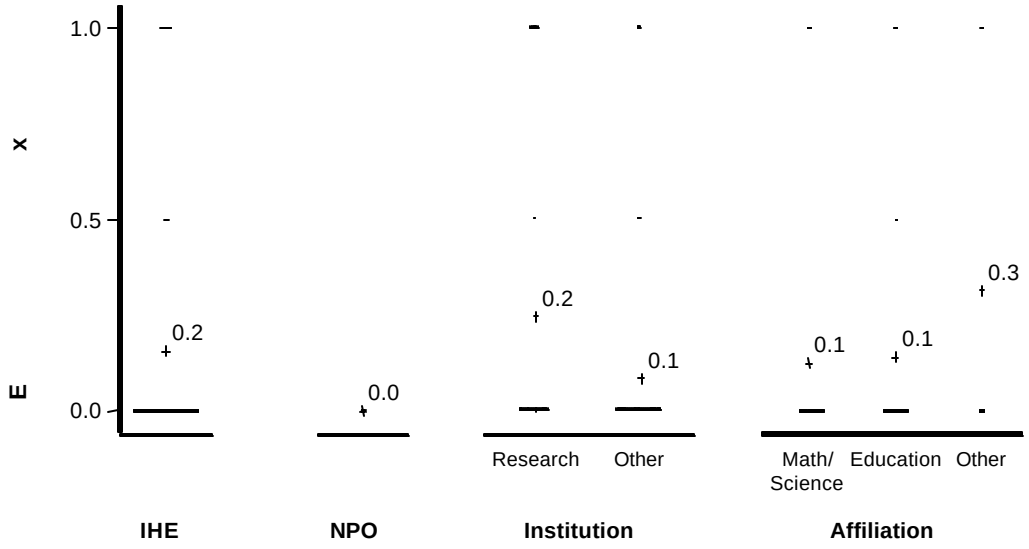


Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit: The first bar shows that 14 percent of teachers participating in SAHE-grantee projects are in projects whose primary activity includes participation by all teachers in a school. Each bar and the number on top of it represent the percent of participating teachers for each category.

We averaged the two variables comprising the "collective participation" measure to analyze differences according to institution type and departmental affiliation. Analysis of this composite, illustrated in Exhibit 6.8b, shows that many SAHE grantees have neither of the two types of collective participation in their primary activity, while a few SAHE grantees have both types. Exhibit 6.8b also shows that there are significant differences in collective participation by institution type and departmental affiliation. Research/doctoral-granting institutions are significantly more likely than other types of IHEs to have collective participation. Differences by departmental affiliation are significant, but post hoc tests show that differences between any two types of departments are not statistically significant.

EXHIBIT 6.8b

Collective Participation in SAHE-grantee Projects, Overall and by Institution Type and Departmental Affiliation (n=92)



	Significant Pairwise Contrasts
Departmental Affiliation	Overall significant, but planned comparisons insignificant

Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit: The first distribution shows that on average, teachers in SAHE-grantee projects are in projects whose primary activity has a collective participation measure of .2, where zero=no collective participation, and one=includes both types of collective participation. The extent of collective participation differs significantly by both institution type and departmental affiliation. Each dot represents one IHE/NPO project. As the number of IHE/NPO projects at one data point (or value) increases, the dots form a horizontal line that increases in length. Each distribution represents the distribution for that particular category. The number to the right of the distribution is the mean.

One possible explanation for these results is that "other" departments (examples in our survey include broadcasting, a college of business, and a university outreach department) may be more likely than mathematics/science or education departments to develop a particular program or course designed specifically for their Eisenhower project. In mathematics, science, or education, teachers may participate in professional development activities that are part of the regular university curriculum. "Other" departments may be less likely than education or mathematics and science

departments to have relevant regular courses or programs that would draw teachers from various sources.

Summary: Structural Features of SAHE-grantee Activities

As with districts, SAHE grantees support predominately mathematics and science activities, but they also support activities in other subject areas. The reports from SAHE-grantee project directors about the structure of their activities mirror the reports from teachers, described in Chapter 3. SAHE grantees generally offer traditional types of activities—courses and workshops—although a few grantees, especially those in education and "other" departments, are trying reform activities. SAHE grantees have low levels of collective participation in their activities, but seem to structure their primary activities to support "sustained and intensive" learning. On average, activities last over 60 hours, and span between one month and a year. This provides a structure that could facilitate the implementation of content knowledge focus and high-quality learning strategies. We now turn to an analysis of the degree to which SAHE-grantee projects focus on those dimensions of quality.

CORE FEATURES OF PROFESSIONAL DEVELOPMENT

Section Findings

- *Most SAHE grantees report a strong content focus and the use of many types of active learning opportunities in their primary activity.*
- *Projects in mathematics/science departments have high content focus in both research/doctoral-granting and nonresearch/doctoral-granting IHEs; projects in education and other departments have high content focus only in research/doctoral-granting universities.*
- *Eisenhower project directors affiliated with education departments report significantly more active learning opportunities than project directors affiliated with mathematics/science departments.*

Activity type, duration, and the extent of collective participation are the structural features of a professional development activity. Our results in Chapter 3 demonstrated that these characteristics are associated with core features—that is, the methods, curriculum, and practices that comprise the professional development activity. Key aspects of the substance or core of an activity are a focus on content knowledge and opportunities for active learning.

The Eisenhower legislation does not specifically describe how quality should be defined, but it provides some guidance. The legislation states that professional development provided under the Eisenhower program, whether by the state, district, or an IHE/NPO, should be a program that "includes strong academic content and pedagogical components" (Section 2002(2)(C)) and "reflects recent research on teaching and learning" (Section 2002(2)(B)). Although the law does not specifically require activities to have particular characteristics, the legislation is founded on recent

research in professional development that describes attributes of high-quality professional development:

> [P]rofessional development must be focused on teaching and learning in order to improve the opportunities of all students to achieve higher standards (Section 2001(4)(A)); effective professional development focuses on discipline-based knowledge and effective subject-specific pedagogical skills,…is interactive and collaborative, motivates by its intrinsic content and relationship to practice, builds on experience and learning-by-doing, and becomes incorporated into the everyday life of the school (Section 2001(4)(B)).

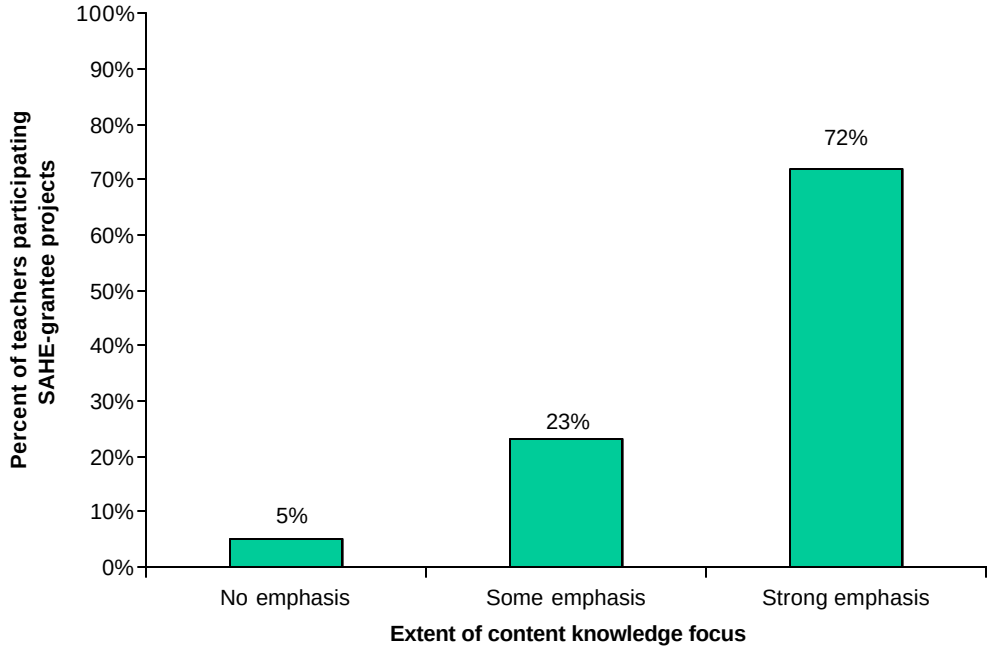
The literature on professional development also highlights the importance of content focus and active learning opportunities. The limited research that is available suggests that professional development is much more effective when it focuses on the content of subjects as well as on how students learn specific content, rather than general non-content-based teaching strategies (Cohen & Hill, 1998; Fennema et al., 1996; Kennedy, 1998). Also, studies have shown that professional development that offers opportunities for active learning, such as interacting with other participants, leading exercises, simulating practice, and obtaining feedback, are more likely to foster increased knowledge and skills and changes in teacher practice than other more passive learning techniques (Carey & Frechting, 1997; Darling-Hammond, 1997b; Lieberman, 1996; Schifter, 1996).

Focus on Content Knowledge

We measured both the content focus and active learning opportunities in each SAHE grantee's primary professional development activity. To measure the extent to which a grantee's primary activity is content-focused, we asked the project director how much emphasis the primary activity gives to deepening content knowledge; responses include "no emphasis," "some emphasis," or "strong emphasis." Results, shown in Exhibit 6.9a, indicate that five percent of teachers participating in SAHE-grantee projects are in projects whose primary activity places no emphasis on content knowledge, 23 percent of participating teachers are in projects whose primary activity places some emphasis on content knowledge in the primary activity, and 72 percent are in projects whose primary activity places a strong emphasis on content knowledge.

EXHIBIT 6.9a

Percent of Teachers Participating in SAHE-grantee Projects Whose Primary Activity Focuses on Content Knowledge (n=92)

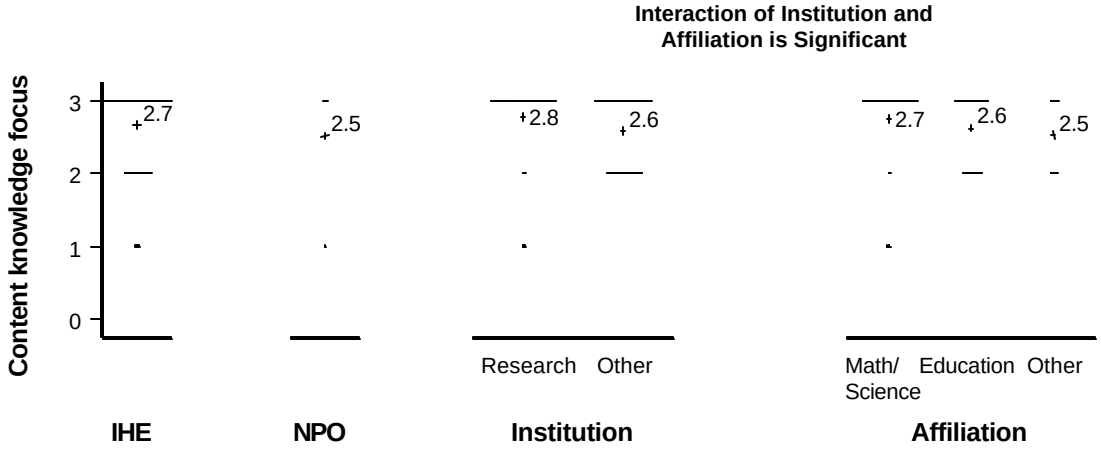


Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit: The first bar shows that five percent of teachers participating in SAHE-grantee projects are in projects whose primary activity has no emphasis on content knowledge. Each bar and the number on top of it represent the percent of participating teachers for each category.

Next we analyze content focus by institution type and departmental affiliation. Exhibit 6.9b shows that the means on the three-point content focus scale vary from one to three, but most are above two. Further, the interaction of institution type and departmental affiliation is significant. Exhibit 6.9c indicates that projects in mathematics/science departments have high content focus regardless of the type of IHE, while projects in education and other departments have a high content focus only if they are in research/doctoral universities.

EXHIBIT 6.9b

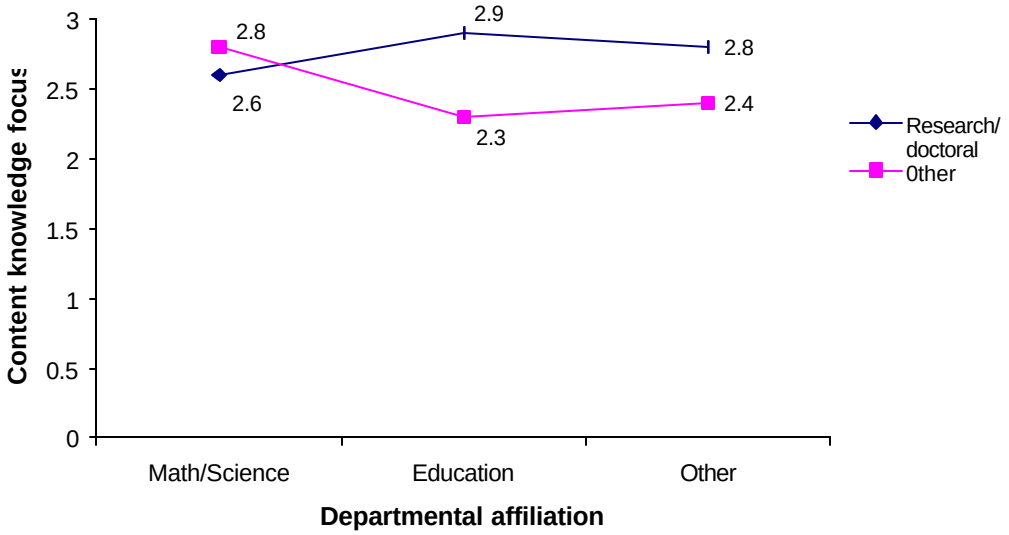
Extent of Content Knowledge Focus in SAHE-grantees' Primary Activity, Overall and by Institution Type and Departmental Affiliation (n=92)



Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit: The first distribution shows that on average, teachers in SAHE-grantee projects are in projects whose primary activity has a content focus of 2.7, where zero=no emphasis on content and three=a strong emphasis on content. The interaction effects of institution type and departmental affiliation on content knowledge are significant. Each dot represents one IHE/NPO project. As the number of IHE/NPO projects at one data point (or value) increases, the dots form a horizontal line that increases in length. Each distribution represents the distribution for that particular category. The number to the right of the distribution is the mean.

EXHIBIT 6.9c

Extent of Content Knowledge Focus in SAHE-grantees' Primary Activity, by Institution Type and Departmental Affiliation (n=86)



Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit: The data point designated by the first square indicates that the average extent of content knowledge in the primary SAHE-grantee project in mathematics/science departments in nonresearch doctoral-granting universities is 2.8 (where zero=no emphasis on content and three=a strong emphasis on content). The line with data points designated by squares indicates the extent of content emphasis of projects at nonresearch/doctoral-granting institutions, in each of the three types of departments. The line with the data points designated by diamonds indicates the extent of content emphasis of projects at research/doctoral-granting institutions, in each of the three types of departments.

These findings may reflect that SAHE grantees in research/doctoral-granting universities are more likely than those in nonresearch universities to be knowledgeable about the importance of content focus in professional development, and more equipped to provide strategies to learn substantive content. Also, mathematics/science departments may have a strong content focus across institutions types since those departments deal mainly with subject-specific topics, not pedagogical techniques.

Opportunities for Active Learning

To measure the second core feature—opportunities for active learning—we asked SAHE-grantee project directors about how their primary activity helps participants use new skills in their classroom. We asked them the following questions:

- Did participants receive coaching or mentoring in the classroom?
- Was participants' teaching observed by other participants and feedback provided?
- Did participants practice under simulated conditions, with feedback?
- Did you or other activity leaders observe participants' teaching and provide feedback?

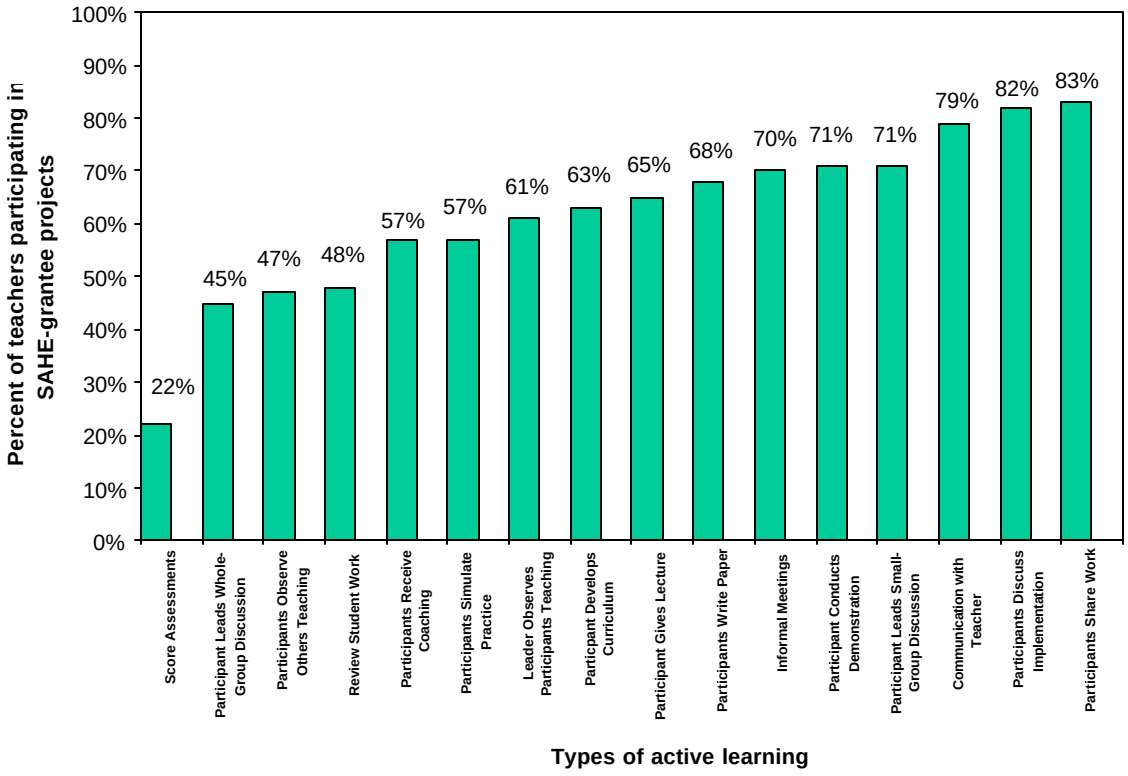
- Did participants meet formally with other participants to discuss classroom implementation?
- Did participants communicate with you concerning classroom implementation?
- Did participants share their students' work with you or other participants?
- Did participants meet informally to discuss classroom implementation?
- Did participants develop curricula or lesson plans that you or other participants reviewed?
- Did participants engage in the following during the activity:
  - Give a lecture or presentation of a lesson or unit?
  - Conduct a demonstration of a lesson or unit?
  - Lead a whole-group discussion?
  - Lead a small-group discussion?
  - Write a paper, report, or plan?
  - Review student work?
  - Score assessments?

Exhibit 6.10a shows that more than three-fourths of participating teachers are in projects whose directors report that in their primary Eisenhower activity, participants share work (83 percent), meet formally with other participants to discuss classroom implementation of the new skills that they learned in the professional development activity (82 percent), and communicate with the teacher (79 percent). Most participating teachers are in projects that offer activities that allow participants to lead a small-group discussion (71 percent), conduct a demonstration (71 percent), have informal meetings (70 percent), write a paper or report (68 percent), give a lecture (65 percent), develop a curriculum (63 percent), have the leader observe their teaching and provide feedback (61 percent), receive mentoring or coaching (57 percent), and practice under simulated conditions (57 percent).

A little less than half of participating teachers are in projects whose primary activity includes opportunities for teachers to review student work (48 percent), observe other teachers and provide feedback (47 percent), and lead whole-group discussions (45 percent). The least common active learning opportunity is having teachers score assessments; only 22 percent of participating teachers are in projects that include this method in their primary professional development activity. So it seems that most SAHE-grantee primary activities use a number of active learning strategies; among the most common strategies are communication and feedback with the activity leader, and among the least are strategies related to scoring and assessing student work.

EXHIBIT 6.10a

Percent of Teachers Participating in SAHE-grantee Projects That Provide Each of Sixteen Types of Opportunities for Active Learning in Primary Activity (n=92)

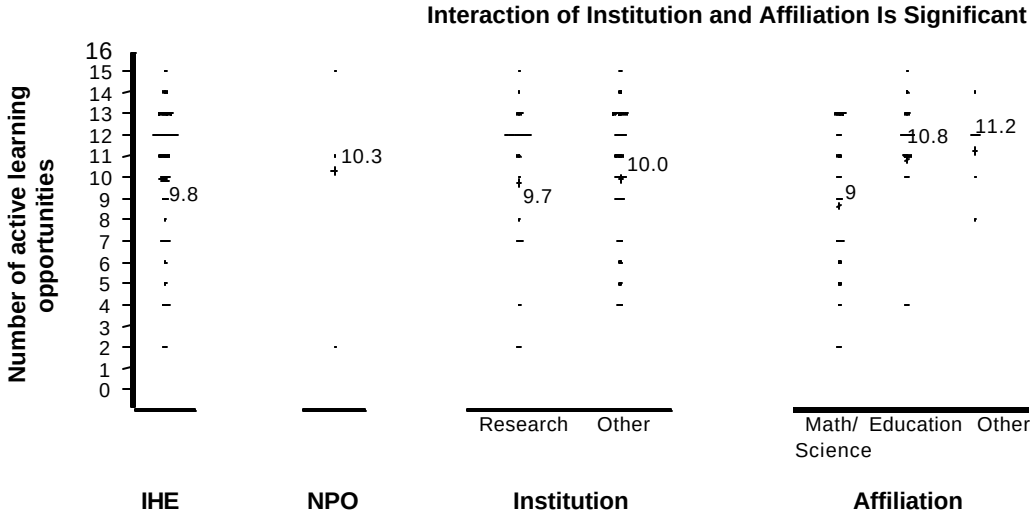


Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit: The first bar shows that 22 percent of teachers participating in SAHE-grantee projects are in projects whose primary Eisenhower-assisted professional development activity uses the active learning strategy of scoring assessments. Each bar and the number on top of it represent the percent of participating teachers for each category.

Combining the 16 types of opportunities for active learning reported by the SAHE-grantees into a scale provides us with a measure of the number of types of opportunities for active learning that SAHE grantees offer, on a scale from 1 to 16. The index provides one measure of the diversity of learning strategies. Exhibit 6.10b illustrates the variation in the number of active learning opportunities that grantees provide in their primary Eisenhower-assisted activity. Some SAHE-grantee primary activities have as few as two active learning strategies in their primary activity, while others have as many as 15. Exhibit 6.10b also indicates that the interaction of institute type and affiliation is significant.

EXHIBIT 6.10b

Number of Types of Opportunities for Active Learning in SAHE–grantees' Primary Activity, Overall and by Institution Type and Departmental Affiliation (n=92)

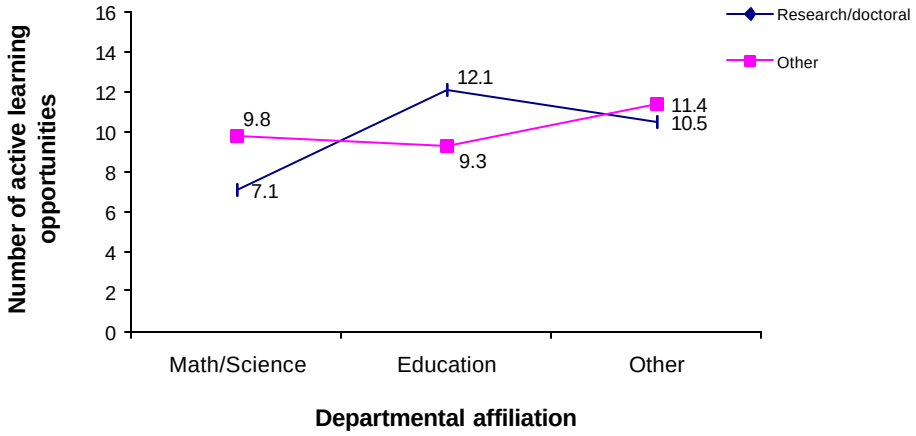


***Source*:** Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit: The first distribution shows that on average, teachers in SAHE-grantee projects are in projects that have an average of 10 active learning opportunities for teachers in their primary Eisenhower-assisted professional development activity. The interaction effects of institution type and departmental affiliation on the number of types of opportunities for active learning is significant. Each dot represents one IHE/NPO project. As the number of IHE/NPO projects at one data point (or value) increases, the dots form a horizontal line that increases in length. Each distribution represents the distribution for that particular category. The number to the right of the distribution is the mean.

An analysis of the pattern of interactions, shown in Exhibit 6.10c, reveals that among projects in education departments, those in research universities allow more opportunities for active learning than those in nonresearch universities. The opposite is true for projects in mathematics/science departments; they do better in nonresearch universities than in research universities. Among projects in research institutions, projects in the education departments provide many more active learning opportunities than projects in mathematics/science departments (12 compared to seven); but for projects in nonresearch universities, there is not much difference in the number of active learning opportunities provided by mathematics/science and education departments.

EXHIBIT 6.10c

Number of Types of Opportunities for Active Learning in SAHE-grantees' Primary Activity, Interaction of Institution Type and Departmental Affiliation (n=86)



Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit: The data point designated by the first square indicates that in mathematics/science departments in nonresearch/doctoral-granting universities, the average number of active learning opportunities in the primary SAHE-grantee project is 9.8. The line with data points designated by squares indicates the number of active learning opportunities in projects at nonresearch/doctoral-granting institutions, in each of the three types of departments. The line with the data points designated by diamonds indicates the number of active learning opportunities in projects at research/doctoral-granting institutions, in each of the three types of departments.

Thus, projects in research universities do better only if they are affiliated with the education department; otherwise, nonresearch universities have more active learning opportunities. This may indicate that, unless they are in an education department, research university professors are more inclined to practice traditional lecturing and non-active learning techniques than professors in other types of universities. Education departments are more equipped to offer alternative pedagogical strategies, and are more knowledgeable about learning techniques, perhaps because pedagogy and learning techniques are a fundamental part of their focus and curricula. In contrast, mathematics and science departments in research universities are more likely to focus on subject matter and less on pedagogical techniques such as active learning.

Further, projects in non-mathematics/science or education departments at nonresearch universities do almost as well in providing active learning opportunities as projects in education departments at research universities. These are departments such as media and broadcasting, whose activities are likely to focus on active, hands-on programs.

Summary: Core Features of Professional Development

SAHE-grantee project directors generally report that their primary Eisenhower-sponsored activity has a strong emphasis on content and offers many types of active learning opportunities. These findings are consistent with our data from teachers, reported in Chapter 3, which indicate high levels of content focus and active learning opportunities in IHE-sponsored professional development activities. It seems that IHE/NPOs structure their activities in ways that facilitate high-quality core features, by establishing activities of long duration, and IHE/NPOs implement the pedagogical strategies that the Eisenhower legislation and the professional development literature emphasize as important for changing teacher knowledge and behavior. Further, projects in education and "other" departments have a strong content focus only in research/doctoral-granting universities, while projects in mathematics/science departments have a high content focus regardless of institution type. Projects in education departments in research/doctoral-granting universities do better than others in active learning.

The question for policy is to identify the reasons for the high average quality of SAHE-grantee activities. One explanation is that IHE/NPO projects are competitive, and the SAHE review process may favor depth over breadth, and may in some cases require grantees to provide activities of a certain duration. Another explanation is that IHE/NPOs spend more than twice as much Eisenhower money per teacher participation as districts do; conversely, IHE/NPOs may spend more money per teacher because the high-quality activities that they design require it. In 1997-98, districts spent an average of $185 per teacher participation, while IHEs spent an average of $512 per teacher participation.[12] Thus on average IHE/NPOs distribute their funds across fewer teachers than districts do. Apparently, districts seek to reach as many teachers as possible (breadth), while IHE/NPOs seek to provide a high-quality professional development experience to teachers (depth), even though this means reaching fewer teachers. This may reflect the different roles that IHE/NPOs and districts play. Perhaps districts feel a responsibility to serve all of their teachers, while IHE/NPOs do not have a specific constituency of teachers to whom they feel responsible.

Our analyses of differences by institution type and departmental affiliation can perhaps shed some light on these suppositions. Perhaps a large part of the reason that projects in education departments at research/doctoral institutions support activities that last longer and offer more opportunities for active learning than projects in mathematics/science departments is that the directors in education departments are more familiar with the research on high-quality professional development.

Finally, projects in mathematics/science departments emphasize content knowledge regardless of the type of university they are housed in, while projects in education and other departments emphasis content knowledge only if they are in a research university. This may suggest that project directors at nonresearch universities affiliated with education or other (non-

[12] For 1996-97, states reported in their SAHE reports that there were 92,000 teacher participations in professional development. To calculate dollars per participation, we assumed that 95 percent of the 16 percent of the total Eisenhower appropriation that is earmarked for IHE/NPOs goes to IHE/NPOs. The 1997-98 appropriation was $310 million; thus dollars per participation for IHE/NPO projects was $512. In the SEA reports in 1996-97, states reported that the number of participations in professional development in districts was equal to 1.27 million. Assuming that 90 percent of the earmarked 84 percent of the $310 million Eisenhower appropriation goes to districts, the dollars per participation for districts was $185. This estimate is for Eisenhower dollars only; the total average cost for districts may be one-third higher than estimated here, given Title II's cost sharing requirement (Section 2209a and b).

mathematics/science) departments need more training and knowledge about the importance of focusing on content and how children learn specific content in the structure and implementation of their professional development activities.

IHE/NPO-provided Eisenhower-assisted in-service activities, described in this chapter generally, have several characteristics of high quality. The competitive process of the SAHE component of the Eisenhower program may promote quality; and it may be that only the most qualified faculty members pursue and receive awards to direct Eisenhower projects.

TARGETING AND RECRUITMENT OF TEACHERS

Section Findings

- *Most teachers participating in SAHE-grantee projects are in projects whose directors say that they target Title I teachers, and teachers in high-poverty and low-achieving schools. The majority of participating teachers are in projects whose directors report that they do not target teachers of special education or limited-English proficient students.*

- *Over three-fourths of participants in SAHE-grantee projects volunteer to participate, and most of the rest are selected by the principal.*

- *Most participating teachers are in projects that try to increase participation in their professional development activities by publicizing them, and about half are in projects that try to increase participation by tailoring the focus of the activities and/or using incentives.*

Teachers cannot benefit from high-quality professional development activities if they do not participate in them. While individual initiative influences the extent to which teachers take advantage of opportunities, teachers' opportunities for professional development also are shaped, in part, by the extent to which they are targeted and recruited to participate in activities. As we discussed in Chapters 3 and 4, the Eisenhower legislation emphasizes the importance of addressing the needs of teachers of diverse student populations. These general provisions of the law for teachers of students of diverse needs apply not only to districts, but also to SAHE grantees. Specifically, the law provides that teachers (and others) should have access to professional development that incorporates effective strategies, techniques, methods, and practices for meeting the educational needs of diverse student populations, including females, minorities, individuals with disabilities, limited-English-proficient individuals, and economically disadvantaged individuals, in order to ensure that all students have the opportunity to achieve challenging state student performance standards (Section 2002(2)(D)).

Increasing the participation of teachers of diverse student populations is important because teachers in schools with high populations of at-risk students are generally less experienced, have fewer resources in their schools, and face students who are often more challenging to teach (Darling-Hammond, 1997a; U.S. Department of Education, 1999a). These teachers are often more in need of professional development than their counterparts in middle-class schools (Darling-Hammond, 1997a; U.S. Department of Education, 1999a), and they also are less likely to participate in professional development activities (U.S. Department of Education, 1998a).

Targeting Teachers of Special Populations of Students

To see how well SAHE grantees target their professional development practices to teachers of the diverse student populations outlined in the legislation, we asked SAHE-grantee project directors a series of questions about their targeting and recruitment practices.[13] We asked them how much emphasis they give to recruiting different types of teachers for their activities—Title I teachers, special education teachers, teachers of limited-English-proficient students, teachers from schools with low-achievement levels, and teachers from high-poverty schools (i.e., schools in which 50 percent or more students are eligible for free or reduced-price lunch). Exhibit 6.11 shows the percent of teachers in SAHE-grantee projects whose project director reports placing "no particular emphasis," "some emphasis," or a "strong emphasis" on each of these groups of teachers.

About three-quarters of teachers participating in SAHE-grantee projects are in projects that report placing some or a strong emphasis on recruiting teachers in high-poverty schools (72 percent) and low achieving schools (71 percent). A little more than half of participating teachers are in projects that emphasize recruiting Title I teachers (55 percent), and more than one-quarter are in projects that target special education teachers (31 percent) and teachers of limited English proficient students (29 percent).

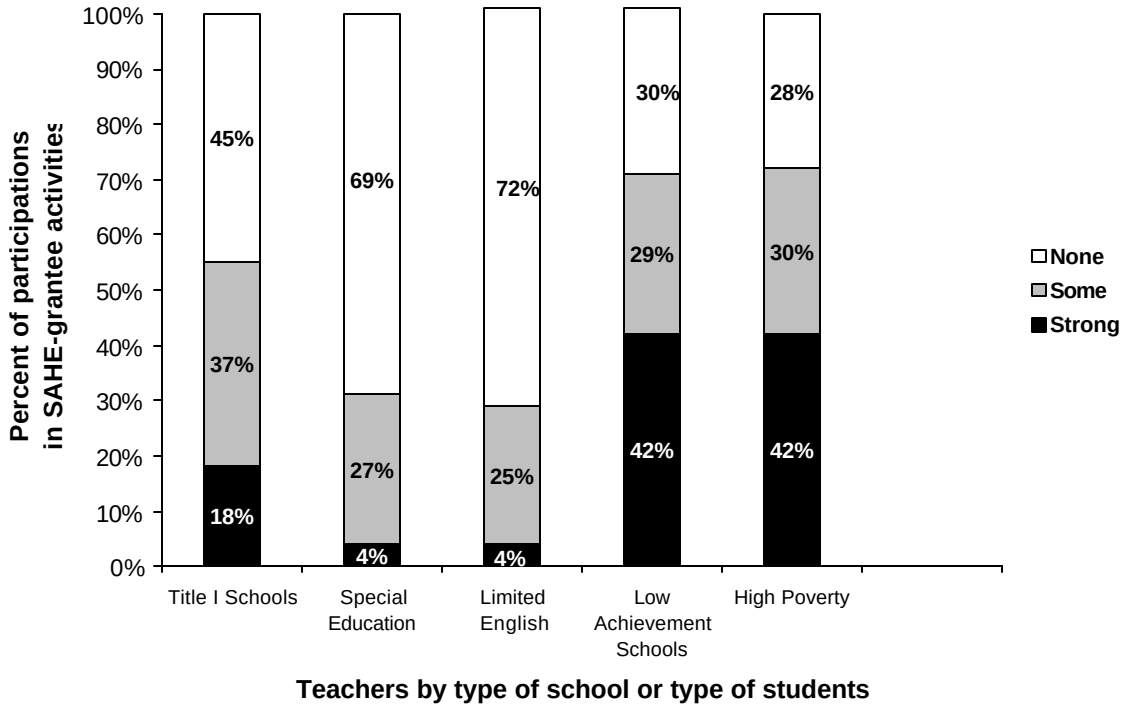
To measure the extent of targeting, we created a scale that combines the emphasis SAHE grantees give to recruiting the five types of teachers shown in Exhibit 6.11, where 1=no particular emphasis, 2=some emphasis, and 3=strong emphasis. An analysis of the scale indicates that the extent of targeting does not differ significantly by institution type or departmental affiliation.

One reason that SAHE grantees report high levels of targeting for teachers of some groups of students may be due to SAHE requirements for targeting special populations of teachers. In one of our case studies in Kentucky, the SAHE Eisenhower coordinator indicates that Eisenhower proposals from IHEs must ensure opportunity for equitable participation by teachers of historically underrepresented/underserved segments of society. This consideration extends to gender, economics, disabilities, and racial minorities. In addition, the SAHE reports making aggressive efforts to recruit for participation teachers who are racial minorities, and teachers of minority or disabled students. For example, the SAHE supports specific projects designed for particular groups of teachers. One project is designed to introduce methodology, technology, and classroom practices for teachers of special-need students, and another project is designed for racial minority students to be involved and participate in particular exercises in the professional development activities. Similarly, in Texas, an IHE project coordinator reported that although teachers in Title I schools are not specifically targeted by districts for professional development, SAHE professional development grants have always

[13] Data presented in the next three sections, on targeting, alignment and coordination, and continuous improvement, refer to general SAHE-grantee activities, not just the primary activity.

EXHIBIT 6.11

Percent of Teachers Participating in SAHE-grantee Projects Whose Directors Report Placing No, Some, or a Strong Emphasis on Recruiting Teachers of Special Student Populations (n=92)



Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit. The first bar shows that 45 percent of teachers participating in SAHE-grantee projects are in projects whose director reports placing no emphasis on recruiting Title I teachers; 37 percent of participating teachers are in projects whose director reports placing "some" emphasis on recruiting Title I teachers; and 18 percent of participating teachers are in projects whose director reports placing a "strong" emphasis on recruiting Title I teachers. Each shaded section of the bar and the number at the top of it represent the average percent of participating teachers for each category.

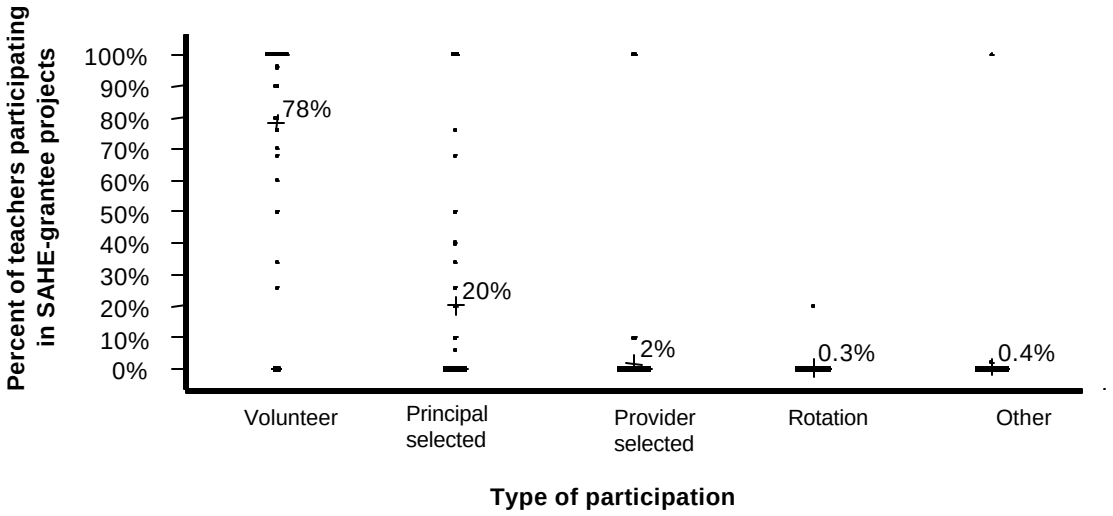
targeted teachers of underrepresented minority and disadvantaged students for recruitment and participation.

Our survey data show that less than 20 percent of teachers participating in SAHE-grantee projects are in projects whose director places a "strong" emphasis on targeting teachers in Title I schools. In our case-study interviews, the project director at a university in Texas offers an explanation for why she does not target Title I teachers. She says that there is no specific targeting of Title I teachers because so many of the schools that they work with are Title I schools; only two or three of the schools in the three districts that she works with are not Title I schools.

In addition to targeting, we also examined how teachers come to participate in SAHE-grantee professional development activities. We asked SAHE-grantee project directors what percent of the teachers in their Eisenhower activities come to participate in each of several ways: volunteering, selection by their principal or other administrator, rotation, or other ways. Exhibit 6.12 shows the most common ways teachers come to participate in SAHE-grantee projects.

EXHIBIT 6.12

Percent of Teachers Participating in SAHE-grantee Projects, According to How Teachers Come to Participate (n=92)



Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit: The first distribution shows that on average, 78 percent of participating teachers are in SAHE-grantee projects in which participation comes from volunteers. Each dot represents one IHE/NPO project. As the number of IHE/NPO projects at one data point (or value) increases, the dots form a horizontal line that increases in length. Each distribution represents the distribution for that particular category. The number to the right of the distribution is the mean.

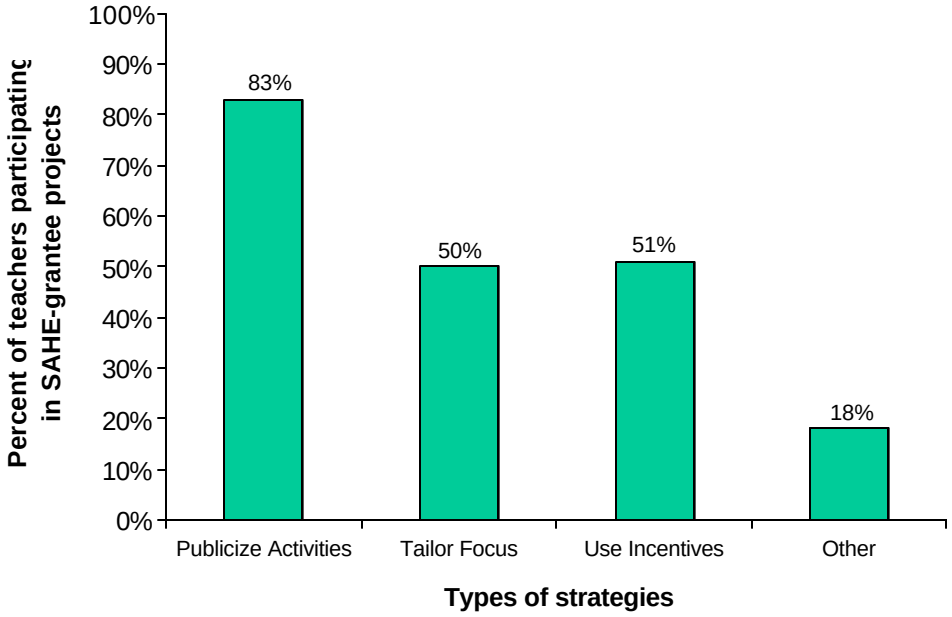
By far the most common method is having teachers volunteer; seventy-eight percent of participations in SAHE-grantee projects come about by having participants volunteer. Twenty percent of participations occur through principal selection. The remaining channels of participation comprise less than five percent of total participations. SAHE grantees vary in the extent to which they rely on these methods. For example, some participating teachers are in projects that rely exclusively on teacher volunteers, while some are in projects that rely entirely on teachers selected by principals.

Methods of Increasing Teacher Participation

We asked SAHE grantees how they try to increase the participation of teachers, paraprofessionals, or others in their activities. Choices included publicizing activities, using incentives, tailoring the focus of professional development toward the needs of special populations, or other strategies. Exhibit 6.13 shows which of these strategies SAHE grantees use. The method used by most SAHE-grantee project directors is publicizing activities (83 percent of participating teachers are in projects that use this method). About half of participating teachers are in projects that use incentives to increase participation (51 percent) and tailor the focus of their activities (50 percent); only 18 percent are in projects that use other methods for increasing participation.

EXHIBIT 6.13

Percent of Teachers Participating in SAHE-grantee Projects That Use Various Strategies to Increase Participation (n=92)



Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit: The first bar shows that 83 percent of teachers participating in SAHE-grantee projects are in projects that publicize activities to increase participation. Each bar and the number on top of it represent the percent of participating teachers for each category.

Summary: Targeting and Recruitment of Teachers

Despite IHE/NPO efforts at recruiting, the effect that this has on actual participation is unclear, since nearly 80 percent of participants are volunteers. Teachers of disadvantaged students may not participate in high numbers even though the activity may be targeted toward them. In Chapter 3 we reported that the actual participation rates of these teachers in Eisenhower-assisted activities are much lower than the SAHE-grantee reports of targeting would predict. The heavy reliance on volunteer participants might help to explain why these participation rates do not reflect reported targeting efforts. Alternative targeting and recruitment efforts, such as sponsoring activities in which the whole school participates, may be effective in increasing the participation of teachers of special populations of students, but in some cases this approach may be unrealistic to implement on a large scale.

BUILDING A VISION FOR PROFESSIONAL DEVELOPMENT: ALIGNMENT WITH STANDARDS AND ASSESSMENTS, AND COORDINATION WITH OTHER PROGRAMS

Section Findings

- *Most teachers in SAHE-grantee projects are in projects whose directors say that state standards play a role in the design of their Eisenhower professional development; however, state assessments and district standards and assessments are much less likely to play a role in project design. Projects in nonresearch universities are better aligned with state and district standards and assessments than projects in research universities.*

- *Few participating teachers are in projects that have ongoing feedback mechanisms with districts, work with the district Eisenhower coordinators, or co-fund with federal programs. However, most participating teachers are in projects that work with districts in other ways. These include working closely with staff from other federal programs, communicating with district staff, and relying on district needs assessments to plan the professional development project.*

- *IHE projects housed in education departments engage in significantly more types of coordination with districts than do projects in mathematics/science departments.*

State and district standards and assessments provide a vehicle for unifying reforms and professional development. Thus one method of designing and developing a program of professional development is to base the activities, pedagogy and curriculum on standards or assessments adopted by the state or district, and to work with other programs in the state and district to develop a coherent reform strategy

In the law, Congress intended that SAHE grantees be part of system-wide reform efforts. The law requires SEAs to develop a state professional development plan to improve teaching and learning and to develop the plan in conjunction with SAHEs (Section 2205 (b)(2)(A)). Similarly, SAHE grantees must follow the law's general provisions for alignment with state standards. Specifically, SAHE-sponsored professional development should help to ensure that professional development is linked to state content and performance standards (Section 2002(2)(A)).

In addition to general provisions about alignment, the Eisenhower program specifically describes particular coordination requirements for IHE/NPO projects. While the SAHE component of the program operates separately from the LEA component of the program, IHE/NPOs that receive Eisenhower grants are expected to work in conjunction with LEAs. Specifically, the legislation provides that

> …the State agency for higher education, working in conjunction with the State educational agency (if such agencies are separate), shall make grants to, or enter into contracts or cooperative agreements with, institutions of higher education and nonprofit organizations of demonstrated effectiveness, including museums and educational partnership organizations,

> which must work in conjunction with a local educational agency, consortium of local educational agencies, or schools…(Section 2211(a)(1)).

In fact, the Eisenhower legislation requires that SAHE grantees establish a formal relationship with one or more school districts. It states that

> No institution of higher education may receive assistance under (a)(1) of this subsection unless the institution enters into an agreement with a local educational agency, or consortium of such agencies, to provide sustained, high-quality professional development for the elementary and secondary school teachers in the schools of each such agency (Section 2211(a)(3)).

The importance of alignment and coordination also is emphasized in the literature. Linking professional development with other programs and reforms helps to provide a coherent vision of professional development (Elmore & Burney, 1996; Guskey, 1997), and teachers recognize when there are inconsistencies among these factors (Grant, Peterson, & Shojgreen-Downer, 1996). Researchers have emphasized the important role that standards and assessments can play in designing and implementing professional development and how coordination, in the form of co-funding, can bring coherence to a professional development plan (Elmore & Burney, 1996). While this literature focuses on school districts, SAHE grantees also can be a part of the overall vision if they are aligned and coordinated with the districts.

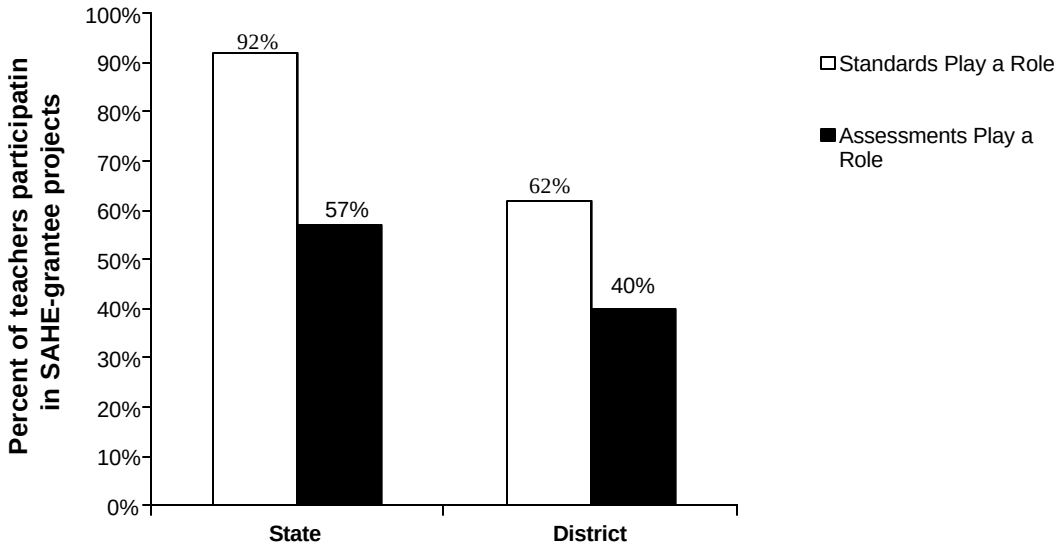
Although SAHEs are not in the same position as districts are to build professional development as part of a systemic reform strategy, they can establish their own vision for integrating their grantee activities into district and state reform strategies, and in this way can be part of the district and state's vision for reform. The extent to which SAHE-grantee projects link their professional development design, implementation and management with district and state reforms can be measured by the projects' 1) alignment with state and district standards and assessments, and 2) extent of coordination with the district and with other federal programs.

Alignment of Eisenhower-assisted Activities with State and District Standards and Assessments

To test the extent to which SAHE-grantee activities are aligned with state and district standards and assessments, we asked SAHE-grantee project directors if "state standards or frameworks" and "state assessments" played a role in designing their Eisenhower project; we asked similar questions about district-level standards and assessments. Responses, shown in Exhibit 6.14a, indicate that standards are more likely to play a role in project design than assessments. Almost all teachers participating in SAHE-grantee projects (92 percent) are in projects that report that state standards play a role in project design, while only 62 percent of participating teachers are in projects in which district standards play a role in project design. Fifty-seven percent are in projects in which state assessments play a role in project design, compared to 40 percent in projects in which district assessments play a role.

EXHIBIT 6.14a

Percent of Teachers Participating in SAHE-grantee Projects in Which State and District Standards and Assessments Play a Role in Project Design (n=92)



Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit: The first bar shows that 92 percent of teachers participating in SAHE-grantee projects are in projects whose project directors report that state standards play a role in their Eisenhower project design. Each bar and the number on top of it represent the percent of participating teachers for each category.

For SAHE grantees, as with districts, standards are much more likely to play a role in Eisenhower activities than are assessments. This may be because more states have standards than assessments, and even states with assessments may not have their assessments well-aligned with their standards. Further, state standards are more likely than district standards to play a role in SAHE-grantee project design. Perhaps because SAHE grantees submit their proposals to the state, not to districts, there may be an automatic feedback and accountability loop that encourages grantees to be responsive to state standards. Several IHE project directors offer evidence of the importance of this link with the state. One project director from Ohio explains that her state has outcome requirements that are mandated, and the Eisenhower project is adapted to meet those state outcomes and meet the standards set by the state. A New York IHE project director also says that the implementation of the Eisenhower program was a response to statewide reforms in the mathematics and science curriculum. Similarly, an IHE project director in Kentucky says that the Eisenhower program in her state gives preference to projects that relate to the state's learning goals and academic expectations for mathematics and science. Preference is given to projects aligned with the state assessments' core content, the Kentucky Instructional Results Information System (KIRIS).

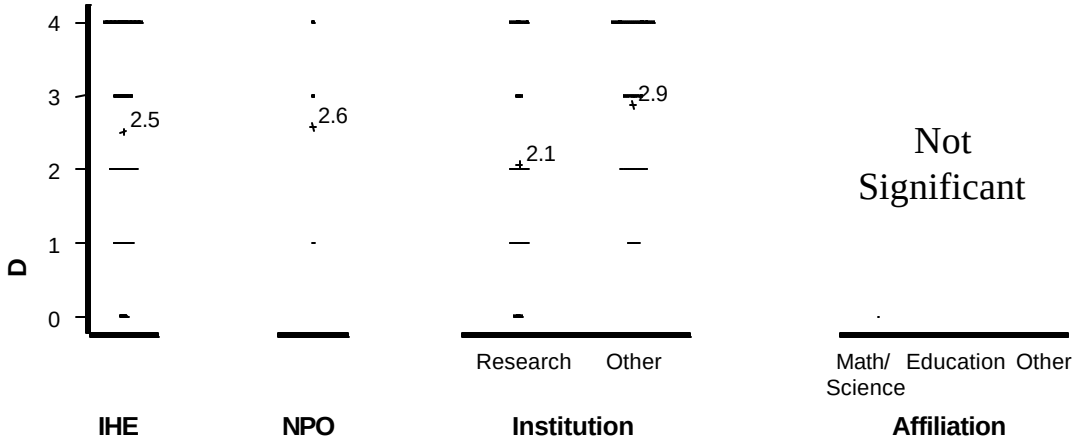
Further, district standards may be more difficult to incorporate into SAHE-grantee professional development activities because grantees often work with multiple districts. Also, in the proposal that IHE/NPOs submit to the SAHE, they have to detail the Eisenhower professional

development activities that they have planned. In some cases, identification of a district may occur after the grant is awarded, so district standards would have little or no influence on the design and development of the activity. If this is the case, requiring IHE/NPOs, in the proposal process, to identify and connect with the district from which they will draw participants for their Eisenhower project would help foster responsiveness to district goals and standards. As it now stands, it seems that the requirement for IHE/NPOs to "enter[s] into an agreement" with the LEA with which they plan to work may not be as visible in some state competitions as it could be. It could also be the case that some existing agreements have more form than substance. Our measures of alignment are limited, however, because they do not capture the extent to which informal, on-going communication and collaboration between IHE/NPOs and districts might affect alignment.

To examine whether the extent of alignment varies by institution type and departmental affiliation, we created a composite measure of alignment. We added the responses to the four alignment questions; the scale ranges from 0 to 4, where 0 means no state or district standards or assessments play a role in project design, and 4 means standards and assessments from both the state and districts play a role in project design. Results, shown in Exhibit 6.14b, indicate that there is variation across IHE/NPOs in the extent to which projects are aligned.

EXHIBIT 6.14b

Degree of Alignment between SAHE-grantees' Eisenhower Project and State and District Standards and Assessments, Overall and By Institution Type and Departmental Affiliation (n=92)



Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit: The first distribution shows that on average, teachers in SAHE-grantee projects are in projects that have an average alignment of 2.5, on a scale of zero to four, where zero indicates no alignment and four indicates alignment with district and state standards and assessments. Alignment differs significantly by departmental affiliation but not by institution type. Each dot represents one IHE/NPO project. As the number of IHE/NPO projects at one data point (or value) increases, the dots form a horizontal line that increases in length. Each distribution represents the distribution for that particular category. The number to the right of the distribution is the mean.

Projects do not differ significantly in alignment according to departmental affiliation, but nonresearch/doctoral-granting universities report more alignment with state and district standards and assessments than do research/doctoral-granting universities. This finding may reflect the fact that "other" colleges are more likely than research universities to have large teacher training programs, and thus are more likely to work with states and districts. Also, it may be that project directors at research/doctoral-granting universities are more likely to have their own research agendas that they use to shape their Eisenhower projects. In contrast, project directors at nonresearch/doctoral-granting universities are less likely to be engaged in ongoing research, and thus may be more inclined to shape their project around the state's and district's goals and interests.

Coordination with Other Programs

To be a part of building an effective professional development strategy, SAHE-grantee projects need to be coordinated with other programs in the district in which they are working. We asked several questions to measure the extent to which SAHE grantees coordinate their efforts with local districts.

The legislation requires each SAHE grantee to establish a cooperative agreement with the LEA and/or districts with which it works (Section 2211(3)). Of those teachers participating in SAHE-grantee projects that work with only one district, 58 percent are in projects whose directors have formal cooperative agreements with the district. Of those in projects that work with multiple districts, 71 percent are in projects whose directors report having formal agreements with one or more of these districts. Since these data are project director self-reports, the lack of formal agreements is probably at least as great as the data show, and these results suggest that many SAHE grantees are not complying with the legislation's directive to secure an agreement with the district.

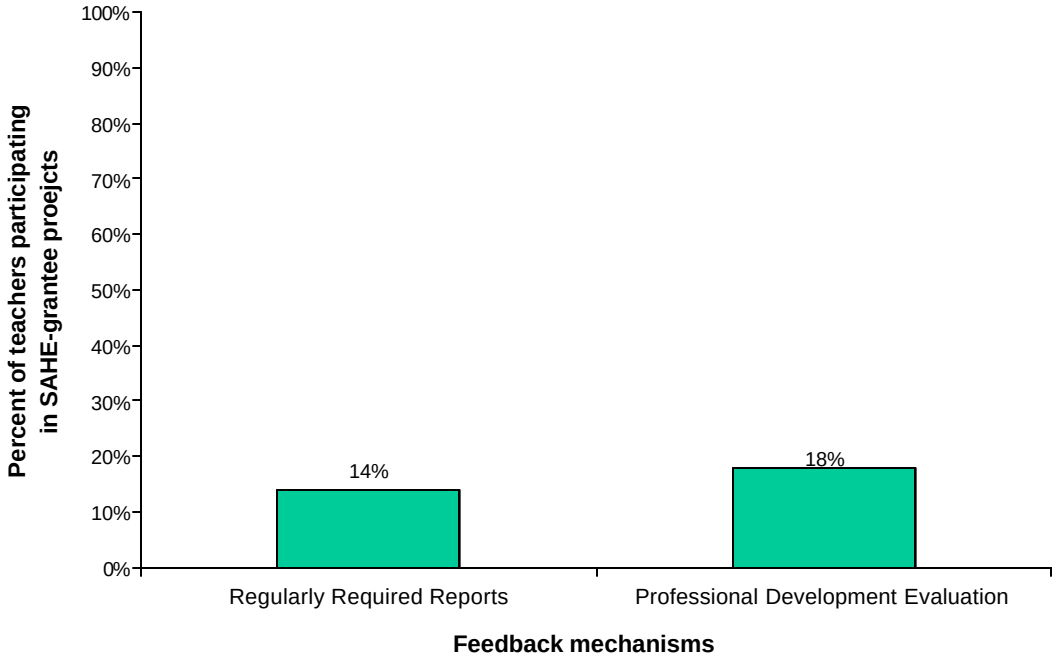
In addition to asking about formal agreements, we asked a series of questions about how SAHE grantees interact with district staff. We identified five separate dimensions of coordination: 1) feedback mechanisms; 2) support and extension of district activities; 3) ways of working with districts; 4) district involvement in planning, implementing, or monitoring; and 5) co-funding with other federal programs.

Feedback Mechanisms

To examine the required feedback mechanisms between SAHE grantees and districts, we asked each project director if either of the following feedback mechanisms takes place between the project and the district: regular required reports and required evaluations of professional development activities. Exhibit 6.15 shows that 18 percent of participating teachers are in projects that are required to provide districts with an evaluation of professional development activities, and 14 percent are in projects that are required to complete reports for the district. We conclude that IHE/NPO projects generally do not feel responsible to districts; however, they do demonstrate a responsibility toward states, possibly because, as previously discussed, it is through states that they receive their Eisenhower funds.

EXHIBIT 6.15

Percent of Teachers Participating in SAHE-grantee Projects That have Ongoing Feedback Mechanisms with Districts (n=92)



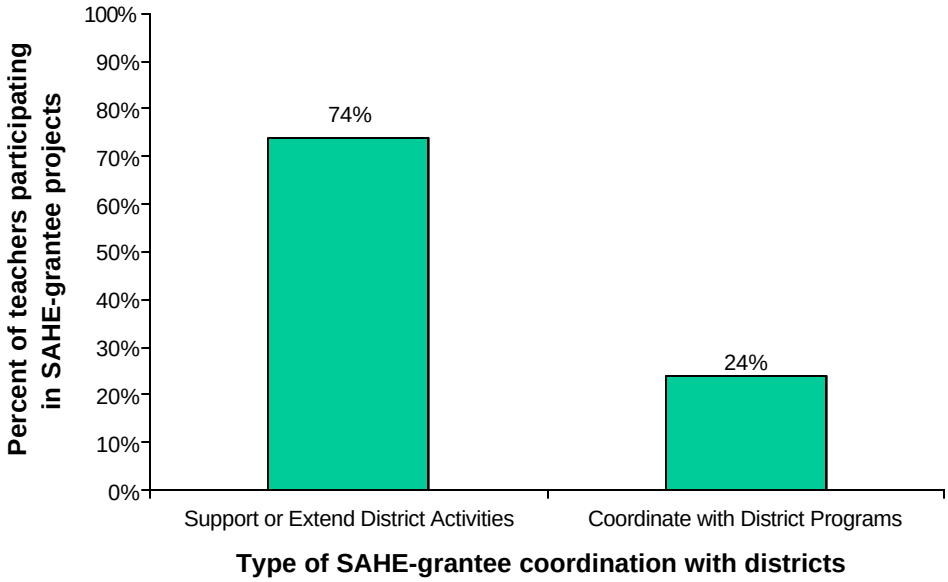
Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit. The first bar shows that 14 percent of teachers participating in SAHE-grantee projects are in projects whose directors say that regularly required reports exist as an ongoing feedback mechanism between them and the district. Each bar and the number on top of it represent the percent of participating teachers for each category.

Support and Extension of District Activities

Another dimension of coordination is the extent to which SAHE-grantee projects are designed to support, extend, and coordinate with district activities. We asked each SAHE-grantee project director if the Eisenhower project was designed to support or extend professional development activities in the district, and whether the Eisenhower project was coordinated with district programs or reforms. Responses, shown in Exhibit 6.16, show that almost three-quarters (74 percent) of participating teachers are in projects whose directors report that their activities are designed to support or extend district professional development activities. However, less than one-quarter (24 percent) of participating teachers are in projects whose directors report coordinating with district programs and reforms. These results, again, probably reflect the SAHE-grantee project application process. Districts and IHE/NPOs may choose to work with each other when the IHE/NPO project fits with district professional development activities, but IHE/NPO projects are less likely to be coordinated with district reforms and programs than with state standards, because IHE/NPOs must be responsive to state priorities in their grant proposals.

EXHIBIT 6.16

Percent of Teachers Participating in SAHE-grantee Projects That Support and Coordinate with District Professional Development Activities and Programs (n=92)



Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit: The first bar shows that 74 percent of teachers participating in SAHE-grantee projects are in projects designed to support or extend other district professional development activities. Each bar and the number on top of it represent the percent of participating teachers for each category.

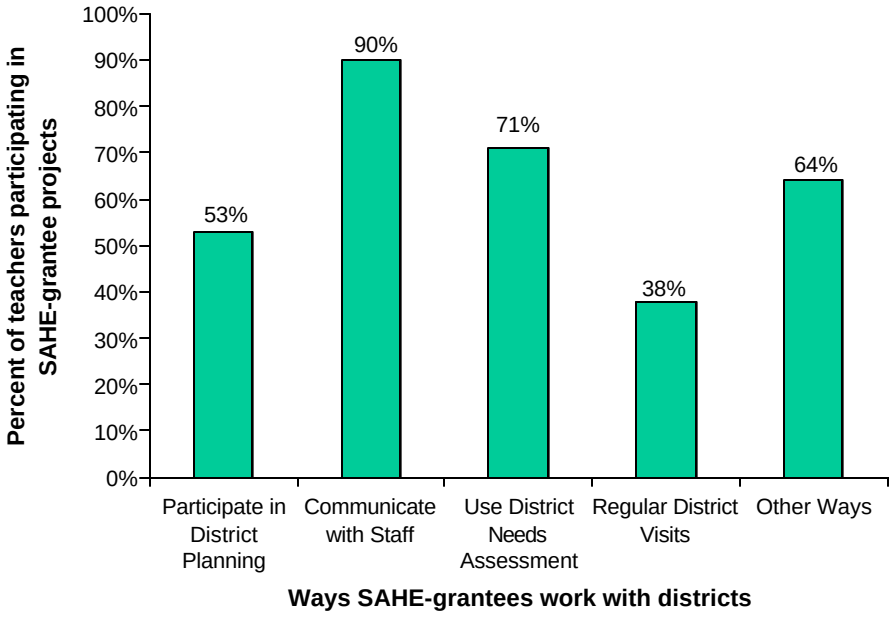
Working with Districts

We asked each SAHE-grantee project director if he or she worked with districts in any of the following ways: 1) participate in district planning, 2) communicate periodically with staff, and 3) rely on district needs assessments to plan their project. We also asked if districts conducted regular visits and observations of professional development activities provided by the SAHE grantees and whether the grantee worked with districts in other ways.

As indicated in Exhibit 6.17, many of the participating teachers are in projects whose directors report working with districts in each of these five ways. Ninety percent of participating teachers are in projects whose directors communicate periodically with district staff, 71 percent are in projects that rely on district needs assessments, 53 percent are in projects that participate in district planning, 38 percent are in projects whose directors report that districts visit and observe regularly, and 64 percent are in projects that work with districts in other ways.

EXHIBIT 6.17

Percent of Teachers Participating in SAHE-grantee Projects That Work with Districts in Different Ways (n=92)



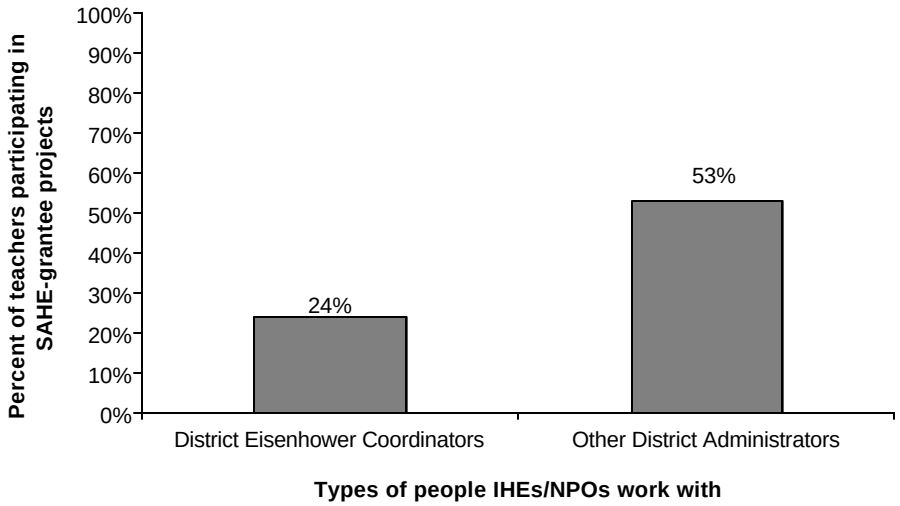
Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit. The first bar shows that 53 percent of teachers participating in SAHE-grantee projects are in projects that work with their district by participating in district planning. Each bar and the number on top of it represent the percent of participating teachers for each category.

District Involvement in Planning, Implementing, or Monitoring

To measure the fourth component of coordination—involvement of district staff—we asked each project director if the district Eisenhower coordinator(s) and/or other district administrators are involved in planning, implementing, or monitoring the SAHE-grantee project. Responses, illustrated in Exhibit 6.18, indicate that 53 percent of participating teachers are in projects whose directors report working with non-Eisenhower district administrators in planning, implementing or monitoring the IHE/NPOs' Eisenhower project. Surprisingly, only 24 percent of participating teachers are in projects whose directors say they work with the district Eisenhower coordinator in these ways. However, more than half of participating teachers are in projects whose directors work with *other* district administrators. Working with district staff would seem to afford SAHE-grantee project directors the opportunity to become knowledgeable about and integrate district programs, standards, and assessments into the project; nevertheless, many do not seem to be doing this.

EXHIBIT 6.18

Percent of Teachers Participating in SAHE-grantee Projects in Which District Staff Are Involved in Planning, Implementing, or Monitoring Eisenhower-assisted Activities (n=92)



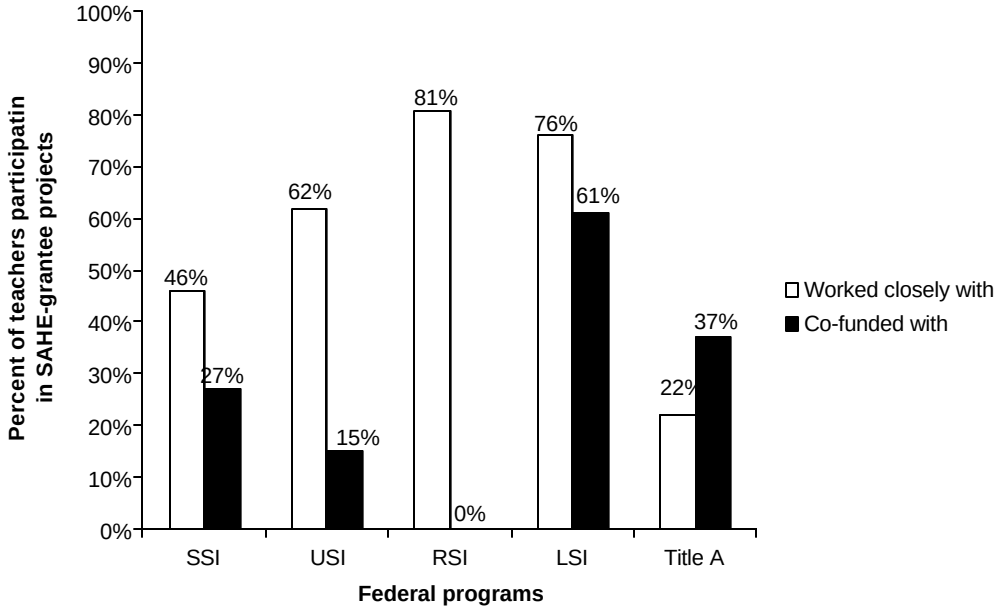
Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit. The first bar shows that 24 percent of teachers participating in SAHE-grantee projects are in projects whose directors report that the district Eisenhower coordinator is involved in planning, implementing, or monitoring the project. Each bar and the number on top of it represent the percent of participating teachers for each category.

Co-funding

A final dimension of coordination is co-funding, or the extent to which SAHE-grantee projects coordinate funding with other programs operating in the districts with which they work. For a number of National Science Foundation and ED department programs (i.e., NSF's State Systemic Initiative (SSI), Urban Systemic Initiative (USI), Rural Systemic Initiative (RSI), and Local Systemic Initiative (LSI), and ED's Title I, Part A program), we asked each SAHE grantee if the program operated in the districts with which the IHE/NPO worked during the last year, and if the program supports professional development. We also asked whether the program co-funded professional development last year with the SAHE-grantee's project, and whether the program staff worked closely with the grantee's staff in the last year. Results in Exhibit 6.19 show that SAHE grantees do little co-funding with federal programs, although they report high levels of working with other programs. (Note: results reported for working closely with districts are contingent upon the program existing in the district in which the IHE/NPO is working; and co-funding results are contingent upon both the program's existence in the district and the program's inclusion of professional development.

EXHIBIT 6.19

Percent of Teachers Participating in SAHE-grantee Projects That Co-fund and/or Work Closely with Other Federal Programs (When the Program Operates in the District) (n varies)



Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit. The first bar shows that for those teachers participating in SAHE-grantee projects in projects that work with districts in which the SSI program is operating, 46 percent of participations are in projects that report working closely with the SSI program. Each bar and the number on top of it represent the percent of participating teachers for each category.

Eighty-one percent of participating teachers are in projects whose directors say they work closely with the RSI program staff. To a lesser extent, SAHE grantees work with staff from the LSI (76 percent of participating are in projects whose directors work with LSI staff), the USI (62 percent), the SSI (46 percent), and Title I, Part A (22 percent). However, while SAHE grantees work with staff of other programs, grantees often do not co-fund with them. No SAHE grantees co-fund with the Rural Systemic Initiative, and few co-fund with the USI (15 percent of participating teachers in projects located in states with USIs, where the USIs support professional development, are in projects that co-fund with the USI). Sixty-one percent of participating teachers in projects in districts with LSIs that support professional development are in projects that co-fund with the LSI. To a lesser extent, participating teachers are in projects that co-fund with Title A (37 percent) and the SSI (27 percent).

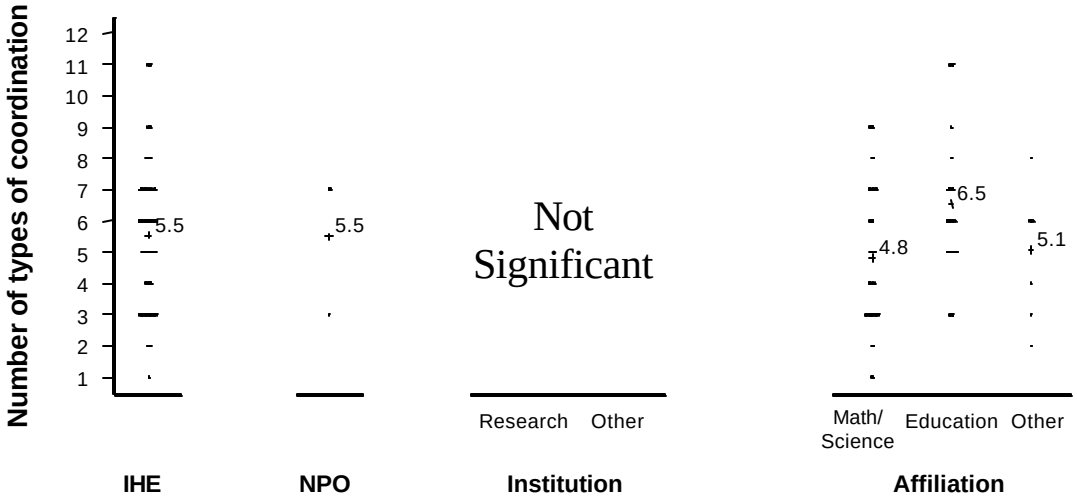
These results support the notion that many IHE/NPOs work with districts only after the IHE/NPO activity has been designed. In order for co-funding to occur, there would have to be more coordination in the design phase of the activity, and our evidence suggests that SAHE grantees design their activities independently of the district. Although many project directors report working with district administrators, this may occur primarily in the implementation phase, and thus not have an effect on the design or structure of the activities.

Overall Coordination with Districts

We combined all five of these scales to create a coordination composite measuring the extent of coordination that each SAHE grantee has with districts. There are 12 possible types of coordination, so the scale ranges from 0 to 12.[14] As Exhibit 6.20 indicates, projects in "other" departments rarely have more than six coordination strategies; projects in education departments have between 3 and 11; and projects in mathematics/science departments have from 1 to 9 types of coordination. Exhibit 6.20 also shows that the level of coordination does not vary significantly by institution type. However, SAHE-supported IHE projects in education departments have significantly more coordination than IHE projects in mathematics or science departments (6.5 types compared to 4.8). These findings offer more support for the notion that education departments are more closely tied to districts than are mathematics or science departments.

EXHIBIT 6.20

Number of Types of Coordination of the SAHE-grantee Project with Districts, Overall and by Institution Type and Departmental Affiliation (n=92)



	Significant Pairwise Contrasts
Departmental Affiliation	Mathematics/Science vs. Education

Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit: The first distribution shows that on average, teachers in SAHE-grantee projects are in projects that report having 5.5 of a possible 12 types of coordination with districts. Each dot represents one IHE/NPO project. As the number of IHE/NPO projects at one data point (or value) increases, the dots form a horizontal line that increases in length. Each distribution represents the distribution for that particular category. The number to the right of the distribution is the mean.

[14] The extent to which IHE/NPOs work closely with federal programs is not part of our overall coordination composite because the intent of the composite is to measure overall coordination efforts with districts, not federal- or state-level coordination.

Overall, our survey data indicate that districts and SAHE grantees work together in some ways, but not others, and that district goals and standards are not always integrated into SAHE-grantee activities. This conclusion is supported by data from our interviews with a number of SAHE-grantee project directors that we conducted in conjunction with our in-depth case studies. For example, in Ohio, a school district and partnership schools in the city are involved in the SAHE-sponsored IHE professional development activity, which focuses on providing science materials and equipment to science teachers. The university provides direction, coordination, and evaluation of the project; facilitates the assembly, organization, and storage of teaching kits, hardware, and software; and provides technical assistance. The university also is involved in planning, guiding teachers' academic progress, preparing and grading exams, and lending and hauling specialized equipment for demonstrations. The local school districts provide the use of their library and classrooms, audiovisual equipment, utilities, and janitorial service for several classroom sessions. All cooperating schools also agreed to provide $150 per teacher-participant for instructional materials to be used with their students in local classrooms. In addition, one of the teachers from the district is involved in every planning session and reports personally to the superintendent. The local county Board of Education provides courier service and some clerical help and time for communications, recruitment, and supervision of teacher selection. Despite this multi-level collaboration, the IHE reports that their project does not relate to the professional development goals of the district, and in fact, the IHE is unfamiliar with the district's professional development goals.

Similarly, in Texas, a SAHE-sponsored IHE project director collaborates with district and federal programs, but reports that district standards and assessments have little effect on the project's professional development activities. The project's primary goal is to create a support system to increase implementation of the national standards in science and math. The superintendent or assistant superintendent of the district must sign off on the project and agree that their teachers will participate. The project is coordinated with the USIs in the districts that the project serves, and there is collaborative planning with the districts' science coordinators, three USI directors from two different districts, a grant coordinator from one of the districts, and professors from the college. The Eisenhower and USI directors volunteer time to work with each other. Mentor teachers also give input into the project development. The IHE project director reports that she works very closely with the district. She spends approximately 200 hours in classrooms each year doing follow-up. Despite this level of coordination and collaboration, the director reports that district assessments, standards, or indicators do not affect the design or implementation of the program.

Thus, if the goal of requiring SAHE grantees to develop cooperative agreements with districts and to work closely with districts in implementing their projects is to foster collaboration in the design of professional development activities, alignment with district standards and assessments, and integration with district programs and reforms, IHEs and districts do not seem to be meeting the goal. While IHE/NPOs report working closely with districts on several activities, they report *not* working closely on other key dimensions, such as co-funding and working with the district Eisenhower coordinators. While the independence of IHE/NPOs may serve an important function in allowing them to provide new knowledge and innovative approaches to teaching, coordination with districts might be encouraged in specific areas where it may benefit both IHE/NPOs and districts, such as in co-funding and targeting.

IMPLEMENTING THE VISION: IHE/NPO PROCEDURES FOR THE CONTINUOUS IMPROVEMENT OF PROFESSIONAL DEVELOPMENT ACTIVITIES

Section Findings

- *For SAHE grantees in states or districts with indicators, state indicators have a much greater effect on SAHE grantees than district indicators do.*
- *About two-thirds of SAHE grantees conduct needs assessments of teachers; the most popular methods of conducting these needs assessments are teacher surveys and informal conversations with teachers.*
- *Almost all SAHE grantees evaluate their activities. Of those that evaluate, almost all use teacher surveys as a method of evaluation; the majority also use counts of teacher participations and observations of teachers; less than a third use student achievement as an evaluation measure.*
- *Research/doctoral universities use fewer continuous improvement methods than other types of IHEs, and IHE projects housed in mathematics or science departments use significantly fewer continuous improvement methods than IHE projects housed in either education or other (i.e., non-mathematics, science, or education) departments.*

In addition to alignment and coordination, another method of shaping professional development activities involves the use of indicators, needs assessments, and evaluations to help design and implement activities. As we noted earlier, the legislation's overall purposes apply to SAHE grantees; the law calls for SAHE grantees to provide professional development that "creates an orientation toward continuous improvement throughout the school" (Section 2002(2)(F)). The law requires that SAHE grantees establish performance indicators (Section 2208(a)(2)), conduct an assessment of teachers needs (Section 2208(b)(1)), and report to the state on the progress toward meeting the indicators (Section 2401(b) and Section 2208(d)(1)(G)). These provisions reflect the "continuous improvement" paradigm that the federal government has adopted, embodied by the Government Performance and Results Act. Research has suggested that such continuous improvement methods are important for high-quality professional development. The quality of professional development increases when teachers and providers are held accountable for outcomes of professional development (Loucks-Horsley et al., 1998) and when professional development is evaluated based on teacher and student outcomes (Guskey, 1997).

We examined SAHE-grantee continuous improvement efforts by asking the project directors about their use of indicators, needs assessments, and evaluations in the design and implementation of their professional development activities.

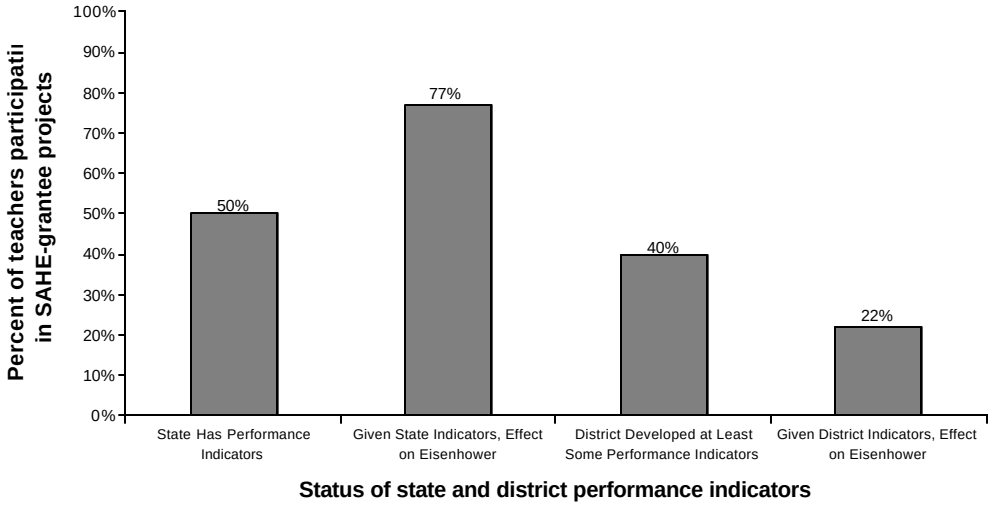
Presence and Use of Performance Indicators

We asked SAHE-grantee project directors whether they are aware of any performance indicators for professional development set by the state and/or district, and if so, whether these

indicators affect their Eisenhower projects. Exhibit 6.21 illustrates that 50 percent of teachers participating in SAHE-grantee projects are in projects whose directors report being aware of state performance indicators; of these, 77 percent are in projects whose directors also report that the Eisenhower project is affected by the state indicators. Forty percent of participating teachers are in projects that work with districts that have performance indicators; of these, only 22 percent are in projects whose directors say that the indicators affect the project.[15] Thus, state indicators seem to have more effect on SAHE-grantee projects than do district indicators. This is consistent with findings reported in Chapter 5, which show that districts are also more affected by state than district indicators, and with findings reported earlier in this chapter, which show that state standards and assessments play a larger role in project design than district standards or assessments.

EXHIBIT 6.21

Percent of Teachers Participating in SAHE-grantee Projects, by Status and Effect of District and State Performance Indicators on the Project (n=92)



Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit: The first bar shows that 50 percent of teachers participating in SAHE-grantee projects are in projects that report that their state has performance indicators. Each bar and the number on top of it represent the percent of participating teachers for each category.

In our case-study interviews, an IHE project director in Kentucky said that state assessments have affected their projects more than district assessments, because schools in the state are held accountable for meeting the state goals, and the IHE projects aim to help teachers in this effort. Also, the IHE director said that district-level indicators do not affect the Eisenhower project directly, because the project works with many districts. Nevertheless, district indicators may have an indirect influence, because they are usually in line with the state indicators. An IHE project director in Texas

[15] This number reflects SAHE grantees that report that either some, most, or all of the districts that they work with have performance indicators.

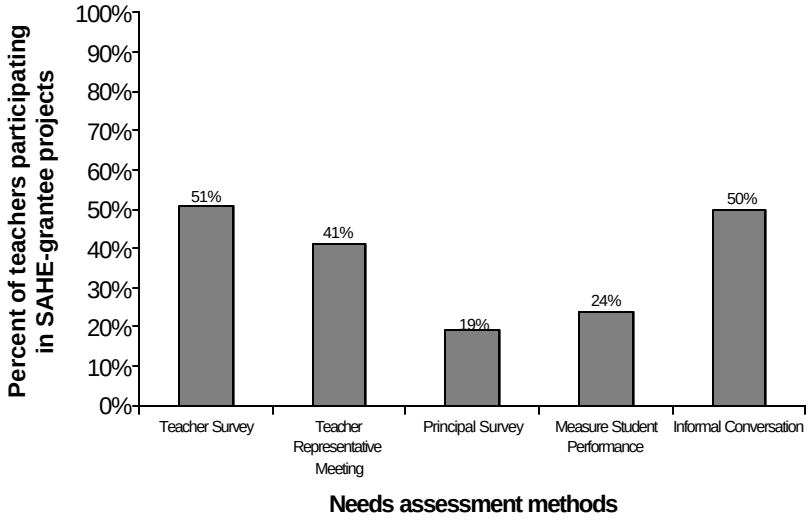
supported this view, reporting that district assessments have not affected the design of the Eisenhower program because their project is based on the national standards.

Assessing the Needs of Teachers

Another dimension of continuous improvement is assessing teachers' needs in order to identify potential areas for improvement. About 66 percent of participating teachers are in projects that say they formally assess teachers' needs for professional development (data not shown). We asked SAHE-grantee project directors how they assess teachers' needs for professional development. Options were 1) with a survey of teachers, 2) with meetings of teacher representatives, 3) with a survey of principals or department chairs, 4) with measures of student performance, and 5) with informal conversations. Exhibit 6.22 shows that the most common methods are surveying teachers (51 percent of participating teachers are in projects that use this method) and informal conversations (50 percent). Meetings with teacher representatives (41 percent) are less frequent. Less than a quarter of participating teachers are in projects that indicate that they use measures of student performance (24 percent) or surveys of principals or department chairs (19 percent) to assess teachers' professional development needs. Thus the most common source of needs assessment information is teachers. While it is important to consider teachers' perceptions of their own needs as well as their students' needs, it may also be useful to combine this with information from other sources, such as classroom observations.

EXHIBIT 6.22

Percent of Teachers Participating in SAHE-grantee Projects That Use Different Strategies to Assess Teachers' Professional Development Needs (n=92)



Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit: The first bar shows that 51 percent of teachers participating in SAHE-grantee projects are in projects that report using teacher surveys as a strategy for assessing teachers' professional development needs. Each bar and the number on top of it represent the percent of participating teachers for each category.

Compared to the SAHE-grantee project directors, district coordinators report much higher levels of needs assessments of every kind (see Exhibit 5.12 in Chapter 5). There are several possible explanations for the higher levels of needs assessment in districts. One explanation is that, as shown in Exhibit 6.17, 65 percent of participating teachers are in projects that rely on district needs assessments to design their professional development program, rather than designing their own. Other reasons may be that districts have better access to teachers than do SAHE grantees, making assessment methods such as "informal conversations" much easier to implement. Districts can more easily identify the pool of teachers for which the professional development will be designed, whereas SAHE grantees may be working with several districts and it may not be clear from where participants will be drawn. Further, many IHE-sponsored activities are college courses, which may be designed to fulfill needs of teachers who are students at the college, rather than to fulfill the needs of teachers in districts with which the IHE may be working. Also, college professors may rely on theory and research to identify teachers' needs, rather than surveying teachers themselves.

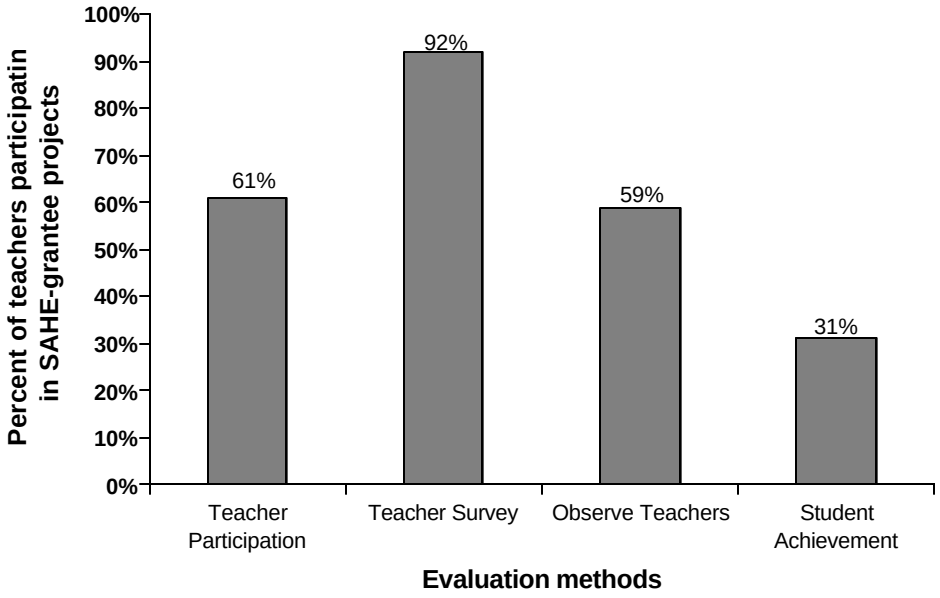
Evaluating Professional Development Activities

The third component of continuous improvement that we measured is evaluation of the professional development activity. We asked SAHE grantees if they evaluate their Eisenhower-assisted professional development; ninety-three percent of participating teachers are in projects whose project directors say that they evaluate these activities. We then asked SAHE grantees how they evaluate their professional development. Alternatives include 1) by the number of teachers participating in professional development, 2) with a teacher satisfaction survey, 3) with observations of teachers, and/or 4) with student achievement. As Exhibit 6.23 illustrates, the most common method of evaluation is a teacher satisfaction survey, which almost all SAHE grantees use; ninety-two percent of participating teachers are projects that use surveys. To a lesser extent, SAHE grantee project directors report using a count of the number of teachers who participate (61 percent of participating teachers are in projects that use this method) and observations of teachers (59 percent) as methods for evaluating their Eisenhower-assisted professional development activities. The least common method of evaluation is using student achievement as a measure of the professional development activity; 31 percent of participating teachers are in projects that use this method.

One IHE project director in Texas offered a possible explanation for the relatively infrequent use of student achievement as a method of evaluating professional development. She explains that science is addressed infrequently on state tests and therefore the only regular indicator of student achievement in science that is available is student grades. This may explain why student achievement measures are not used for science, but it would not explain why they are not used for mathematics. It may be that IHE/NPOs do not use student achievement measures because of the complexity involved in identifying comparable measures over time and separating the effects of professional development from other effects. Using student achievement to determine effects of professional development is a complex, long-term undertaking involving longitudinal studies of teachers and students; SAHE grantees may not have the resources or capacity to launch such evaluations. Given time, expertise, and resource constraints, a more appropriate method of evaluation is for SAHE grantees to evaluate their professional development activities based on the characteristics of high quality that we have shown in this report to be indicative of effective professional development. For example, SAHE grantees could document the duration of their activities, and the opportunities for active learning and collective participation. In addition, SAHE grantees might evaluate the extent to which participants gain the intended knowledge and skills or show improvements in classroom teaching.

EXHIBIT 6.23

Percent of Teachers Participating in SAHE-grantee Projects That Use Different Methods for Evaluating Activities (n=92)



Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit. The first bar shows that 61 percent of teachers participating in SAHE-grantee projects are in projects whose director reports that counts of teacher participation are used as a method for evaluating Eisenhower-assisted professional development activities. Each bar and the number on top of it represent the percent of participating teachers for each category.

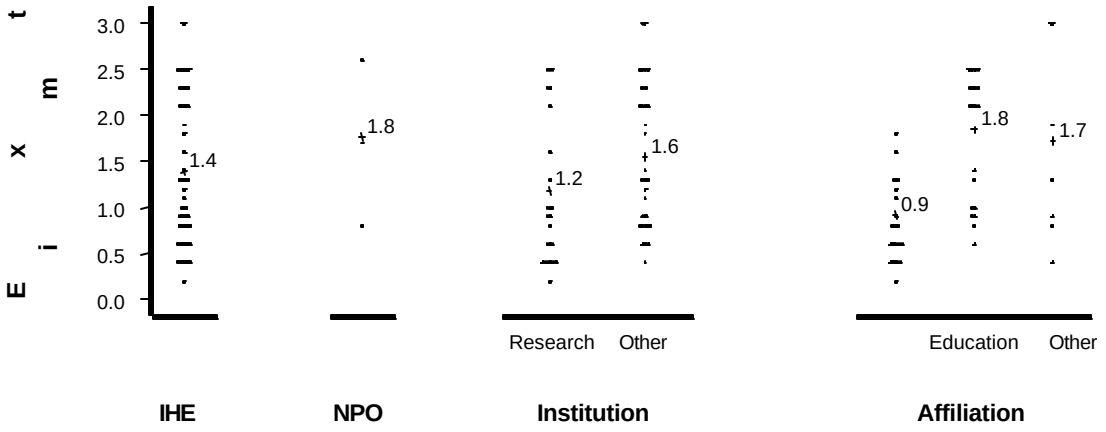
Overall Continuous Improvement

Taken together, indicators, needs assessments, and evaluation strategies can be components of a process of continuous improvement in the design of professional development. To examine whether SAHE grantees' use of continuous improvement methods differs significantly by institution type or affiliation, we created scales for indicators, needs assessments, and evaluation, rescaled each to have a range from 0 to 1, then created an additive composite of all three scales, with a range of 0 to 3. Exhibit 6.24 shows the results for this continuous improvement composite. It indicates great variation in the extent to which SAHE grantees use continuous improvement strategies. The data also indicate that nonresearch/doctoral-granting institutions use significantly more continuous improvement strategies than do research/doctoral-granting institutions. As described earlier, research/doctoral-granting institutions may be more likely to design their Eisenhower projects to reflect current research agendas of the faculty, and therefore may be less likely than other types of colleges and universities to work with districts to provide activities tailored to the needs of their teachers, which would require more needs assessments and evaluation. Our data also show that IHE projects housed in education departments engage in significantly more continuous improvement

activities than IHE projects housed in mathematics or science departments. As we discussed earlier in the chapter, professors in education departments may have closer relationships with districts than mathematics or science professors. This in turn may increase their access to teachers in the district, for purposes of getting feedback on how professional development activities might apply to district indicators, and for gaining access to teachers to assess needs and follow-up with evaluative measures. Also, education professors are more likely than mathematics or science professors to be social scientists and to use social science methods upon which the process of continuous improvement is based.

EXHIBIT 6.24

Extent of SAHE-grantee Continuous Improvement Efforts, Overall and by Institution Type and Departmental Affiliation (n=92)



	Significant Pairwise Contrasts
Departmental Affiliation	Mathematics/Science vs. Education; Mathematics/Science vs. Other

Source: Telephone Survey of SAHE-grantee Project Directors, Spring 1998.
How to read this exhibit: The first distribution shows that teachers in SAHE-grantee projects are in projects that report an average continuous improvement score of 1.4, where zero indicates no continuous improvement efforts and three indicates the largest extent of continuous improvement efforts. Each dot represents one IHE/NPO project. As the number of IHE/NPO projects at one data point (or value) increases, the dots form a horizontal line that increases in length. Each distribution represents the distribution for that particular category. The number to the right of the distribution is the mean.

Summary: Continuous Improvement

Our data from SAHE-grantee project directors show that grantees are much more likely to use state indicators than district indicators. This parallels our finding reported earlier in this chapter that SAHE-grantee projects are more likely to be aligned with state than district standards and assessments. These findings may indicate that the SAHE competitive-proposal process helps to ensure that SAHE-grantee-provided professional development is linked to statewide reform. But the results also imply that the law's requirements that SAHE grantees develop cooperative agreements and work closely with the district do not translate into the use of district standards, assessments, and indicators. Further, we find that while most SAHE-grantee project directors conduct needs assessments and evaluations, these processes typically are based on some form of feedback from

teachers, such as surveys or informal conversations. Observations of teachers or measures of student achievement, which may be more objective ways of assessing needs and evaluating outcomes, are less commonly used for these purposes. This may, in part, be due to the difficulty of obtaining these measures, especially student achievement. Finally, analysis of our continuous improvement composite indicates that projects in research/doctoral institutions and mathematics/science departments use continuous improvement processes significantly less than other institutions and education departments, respectively.

DIFFERENCES IN SAHE-GRANTEE PROJECTS BY INSTITUTION TYPE AND DEPARTMENTAL AFFILIATION

Throughout this chapter, we have examined whether the features and management of Eisenhower-assisted professional development differ by type of institution and departmental affiliation. With respect to *type of institution*, we find that, compared to nonresearch/doctoral-granting institutions, research/doctoral-granting institutions:

- have significantly more collective participation in their primary activity;
- are less aligned with state and district standards and assessments; and
- use fewer continuous-improvement methods.

With respect to *departmental affiliation*, our data indicate that, compared to projects in mathematics/science departments, projects in education departments:[16]

- are more likely to be reform rather than traditional;
- sponsor professional development activities that span a longer time period;
- engage in more types of coordination with the district; and
- use more continuous improvement efforts ("other" departments also use significantly more continuous improvement efforts than mathematics or science departments).

Thus, our data suggest that project directors who are affiliated with education departments design and implement Eisenhower professional development projects that are superior to those designed by directors associated with mathematics or science departments, on a number of dimensions.

Further, we find some evidence of interactions between institution type and departmental affiliation.

[16] Although a project that is housed in a particular department may be administered collaboratively by the school of education and the college or school in which the mathematics/science department resides, our study focuses on the departmental affiliation of the project director.

- Projects in mathematics/science departments have high content focus regardless of the type of IHE they are in, while projects in education and other departments have a high content focus only if they are in research/doctoral universities.

- Projects in education departments have many opportunities for active learning when housed in research universities, but only a moderate number when housed in nonresearch universities. The opposite is true for mathematics/science department projects—they have more active learning opportunities in nonresearch than research universities.

- Projects in "other" departments have a high number of active learning opportunities regardless of the type of institution they are in.

Opportunities for active learning and number of contact hours are greater in education departments, but only in education departments at research/doctoral-granting institutions. This may indicate that education professors in research institutions, compared to other institutions, are more likely to be familiar with recent professional development literature that emphasizes the importance of active learning opportunities and extended contact hours. Further, education professors in research universities are the primary source of research in professional development, and are the primary promoters of reforms in the quality of activities; therefore it is not surprising that these professors are the ones most likely to direct projects with high-quality structural and core features. This also suggests a potentially important distinction. In general, perhaps due to the goals that a department that trains teachers has in common with the school district that it serves, professors associated with education departments may have a closer relationship with districts than mathematics or science professors. This closer relationship creates a natural communication that permits closer collaboration, which in turn may foster more targeting, coordination, and continuous-improvement efforts. This reasoning may also help to explain why research universities score lower in continuous improvement and alignment than other types of institutions. IHEs that have larger teacher education programs, which are more likely to be institutions that grant only bachelor's and master's degrees, are likely to have closer ties to local school districts. These ties facilitate the sharing of information and collaboration that is necessary for continuous-improvement and alignment efforts. If research/doctoral-granting universities are less likely to have these links to the district, projects in these universities would be less likely to implement continuous-improvement and alignment strategies. Also, project directors in research universities are more likely to have their own research agendas that help shape the activities that they design, whereas their colleagues at nonresearch universities may be more free to be responsive to the district's needs.

The high degree of content focus of projects in mathematics/science departments in either type of institution is not a surprise, given that mathematics/science departments usually do not include pedagogy and processes in their curriculum, as education departments do. The higher content focus of projects in education and other departments in research universities, compared to projects in nonresearch universities, may indicate that project directors in nonresearch institutions need more knowledge about the importance of content focus in professional development activities.

THE RELATIONSHIP OF SAHE-GRANTEE MANAGEMENT TO FEATURES OF PROFESSIONAL DEVELOPMENT

So far in the chapter we have examined the features of SAHE-grantee activities, and how SAHE grantees manage and operate their professional development activities. We now look at the associations among these variables, to examine how they work together and affect each other. Exhibit 6.25 shows the relationships among the implementation and quality variables that we discuss in this chapter. (For a more detailed presentation of the results, see Appendix H.) All reported coefficients are standardized path coefficients, which represent the influence of one variable on another. The range in values for path coefficients is generally between –1 and 1, and greater absolute values represent stronger relationships. All paths shown are statistically significant at the .05 level.

The model is designed to reflect an implied causal structure: variables on the far left are considered to be exogenous variables, or external to the system, since they are preconditions and are not manipulable (except to the extent that grants can be targeted to particular types of institutions or departments within institutions). Alignment and coordination are implementation variables that are posited to affect structural and core features of professional development activities both directly and indirectly through increased continuous-improvement efforts.

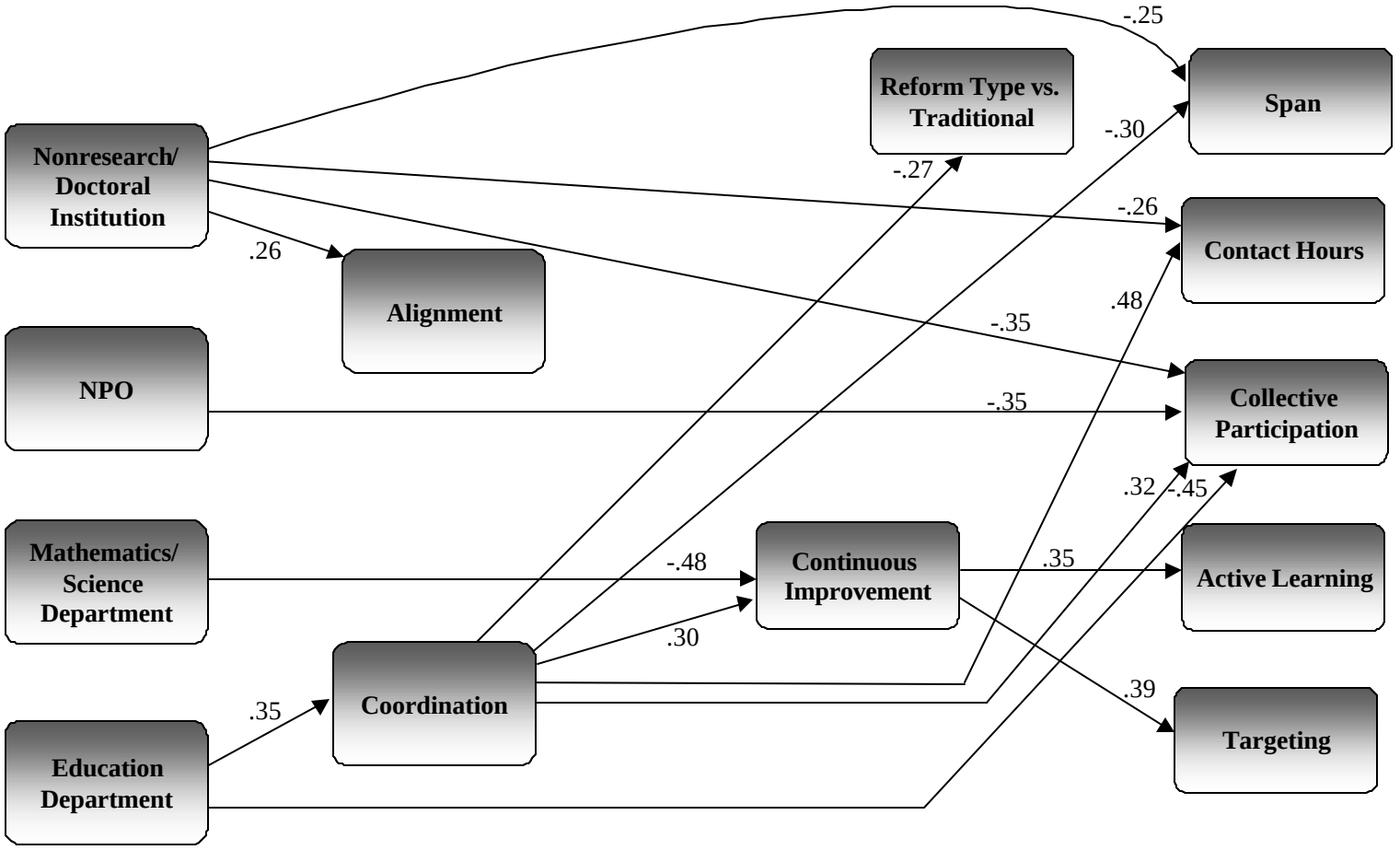
Exhibit 6.25 suggests that it is in part through coordination with districts that education departments outperform mathematics/science departments on many dimensions of professional development. Coordination with the district is associated with several structural and core features. Projects that coordinate with districts are less likely to have reform activities or activities with long time-spans, but more likely to have activities with collective participation and a greater number of contact hours. This might suggest that if an activity is coordinated with the district, it might be planned around the school year, and occur during breaks or the summer, which would require a shorter span of time, but allow more contact hours. One would also expect more collective participation, since the project director in the education department is working closely with the district, perhaps planning professional development to meet the needs of particular groups of teachers or schools.

The model also indicates that SAHE grantees that engage in coordination make greater use of continuous improvement strategies (i.e., indicators, needs assessments, and evaluation), and in turn are more likely to offer more active learning opportunities and target specific groups of teachers, perhaps in response to the needs assessments and evaluations provided by teachers. Alternatively, SAHE grantees inclined to practice coordination and continuous-improvement efforts may already be reform-minded, and thus inclined to design their activities with many active learning strategies, and to reach teachers of at-risk students.

In contrast to education departments, nonresearch/doctoral-granting institutions, NPOs, and mathematics/science departments have no positive paths, and some negative paths, to desirable characteristics of professional development. In particular, mathematics/science departments are much less likely to engage in continuous improvement strategies, and thus have projects with fewer opportunities for active learning and less targeting. Further, although our earlier analysis showed that nonresearch/doctoral-granting institutions are more likely than research institutions to align their activities with state and district standards and assessments, alignment does not prove to have any associations with continuous improvement or quality features.

EXHIBIT 6.25

RELATIONSHIP OF SAHE-GRANTEE MANAGEMENT TO FEATURES OF PROFESSIONAL DEVELOPMENT



This selected analysis of our SAHE-grantee model illustrates the importance of coordination and continuous improvement in determining the structural and core features of professional development activities. These results suggest that the emphasis of the Title II legislation on SAHE-grantee coordination with districts is well-placed, considering the strong relationship that coordination has with the quality of professional development, and with continuous-improvement efforts. Similarly, the law's attention to continuous-improvement efforts in the use of indicators, needs assessment, and evaluation is also well-supported by our findings. But, as reported earlier in this chapter, we do not find much evidence of coordination as is called for in the law. Greater compliance with the law might improve the overall quality of the professional development activities that SAHE grantees provide.

It would be helpful to identify the factors that facilitate coordination and continuous improvement efforts in education departments, and how these efforts translate into higher quality professional development. This information would better enable us to apply these principles and lessons to professional development provided by other departments, and by school districts and schools.

SUMMARY AND CONCLUSIONS

In this chapter, we identified the types of SAHE grantees that provide professional development through the Eisenhower program; described the structural and core features of the professional development activities; the alignment, coordination, and continuous-improvement efforts of SAHE grantees; and examined how these characteristics might be explained by the type of institution and the departmental affiliation of the project director. Several of these findings have implications for the Eisenhower program.

First, we find that while SAHE-sponsored IHE/NPOs tend to offer traditional types of professional development, the activities have many contact hours and span many months. Second, SAHE-sponsored IHE/NPOs generally provide activities with strong content focus and many opportunities for active learning. These characteristics all represent characteristics of high-quality professional development, as posited in the literature and supported by our data in Chapter 3. Although there is variation in the quality of SAHE-grantee projects, and they have few opportunities for teachers' collective participation, in general the activities they provide support Title II's goal of providing "sustained and intensive" high-quality professional development activities. The SAHE competitive award process may foster high-quality projects through establishing criteria, requiring projects to have particular characteristics, and monitoring to ensure implementation; but we do not have sufficient data on these SAHE-sponsored competitions to examine the extent to which these factors affect project characteristics and operations.

Third, SAHE-grantee project directors report that they target teachers of special populations of students to participate in professional development activities, but our data from teachers, reported in Chapter 3, show that the actual participation of these groups of teachers in IHE activities is low when compared to participation levels in district-sponsored activities. Given Title II's emphasis on targeting and recruiting teachers of diverse students, it may be desirable to work with IHE/NPOs to improve their methods for targeting and recruiting these teachers.

Fourth, SAHE grantees are less likely to co-fund and work with the Eisenhower coordinator than they are to communicate or work closely with other district staff. Coordination with the district, which includes both co-funding and working with the district in many other ways, is one of the most important variables in our model of quality professional development. Also, despite high levels of coordination in some areas, SAHE-grantee projects tend not to be aligned with district standards and assessments or use district indicators; they respond more to state standards and indicators. As we suggested earlier, this may be because SAHE grantees sometimes coordinate with districts in the implementation of activities, but not in their development and design. It would be helpful to understand the mechanisms through which coordination affects the quality of professional development, so that we could draw lessons about what types of interactions are useful for shaping high-quality professional development, and how they work. Perhaps it would be helpful to provide more specific guidelines, emphasis, and/or training for particular types of coordination that have been shown to be associated with the provision of high-quality professional development.

Fifth, as with districts, SAHE grantees tend to use teacher reports and surveys rather than classroom observation or student achievement measures to assess needs and evaluate outcomes. Given the complexity of using student achievement to measure the effects of professional development, it may be desirable to emphasize in the legislation the importance of evaluating the quality of professional development activities based on the activities' structural and core features, as described in the literature and in this evaluation.

Finally, our analyses of differences by institution type and departmental affiliation indicate that, while projects in mathematics/science departments have a high content focus, education departments do better than mathematics/science departments on several dimensions of quality and implementation. As our model illustrates, this is probably due in large part to the better coordination that education departments have with districts, and their superior continuous-improvement efforts. It would be informative to get a more in-depth sense of the process of coordination that take place between education departments and districts, and how continuous-improvement efforts are integrated into the design and implementation of their professional development activities. This would help us to identify the specific factors and processes that are most influential in shaping high-quality professional development activities. In addition, it might be useful for the law to give more emphasis to the desirability of having mathematics and science departments collaborate with education departments in the design and coordination of their Eisenhower project.